

## **REMARKS**

### **Status of the Claims**

Prior to entry of the present Response, Claims 1-58 were pending and Claims 1-58 were rejected. In the present Response, Applicant amends Claims 1, 7-8, 21, 24, 30-32, 34, 36, 38, 44, 46, 48-54, and 56-58 and adds new Claims 59-60. Support for the amendment can be found throughout the specification, thus Applicant respectfully submits that no new matter has been introduced hereby.

Applicant respectfully disagrees with the rejections set forth in the Office Action and the assertion on what the cited art shows or teaches and the characterization of the pending claims. Nevertheless, to advance prosecution, Applicant has amended the claims as described below. Applicant reserves the right to pursue the previous version of the claims or claims of similar scope in a continuation application.

### **Summary of the Office Action**

The Office Action rejects Claims 21, 34, 38, and 46 under 35 U.S.C. §112(b) as being indefinite.

The Office Action rejects Claims 1-10, 21, 51, 53-54, 56, and 57 under 35 U.S.C. §103 as being unpatentable over JP 2004-250040 to Ota et al. (“Ota”) in view of U.S. Pub. No. 2022/0389184 to Williams et al. (“Williams”). The Office Action rejects Claims 52, 55, and 58 under 35 U.S.C. §103 as being unpatentable over Ota in view of Williams and further in view of U.S. Pub. No. 2006/0275592 to Tsuchida et al. (“Tsuchida”). The Office Action rejects Claims 1-10, 21-51, 53-54, 56, and 57 under 35 U.S.C. §103 as being unpatentable over Williams in view of Ota. The Office Action rejects Claims 52, 55, and 58 under 35 U.S.C. §103 as being unpatentable over Williams in view of Ota and further in view of Tsuchida.

### **Rejections under 35 U.S.C. § 112(b)**

The Office Action rejects dependent Claims 21, 34, 38, and 46 under 35 U.S.C. § 112(b), as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor regards as the invention.

The Office Action rejects Claims 21, 34, and 46 because, according to the Office Action, it is unclear what is meant by “wherein the light blocking ink layer is removable in a caustic wash

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and wherein any inks, pigments, or coating layers on the recyclable shrink label are formulated not to remain on the recyclable shrink label after a caustic wash cycle of a recycling process.” (Office Action, at 3-5). According to the Office Action, it is unclear “what features are required to meet the limitation . . . and it is not clear what or how the ink, pigment or coating is ‘formulated’ to meet this limitation. It is not clear what the scope of the limitation is with respect to the claim, especially as no coating having been previously claimed, and a pigment is only recited as one of the options for the light blocking component.” While Applicant respectfully disagrees with the Office Action’s rejection of Claims 21, 34, and 46, Applicant has amended Claims 21, 34, and 46 solely to advance prosecution of the instant application.

- Claim 21 has been amended to read “wherein the light blocking ink layer **and the white pigment of the high opacity layer is configured to be removed from the recyclable shrink label** in a caustic wash of a recycling process.”
- Claim 34 has been amended to read “wherein the light blocking ink layer **and the white pigment of the high opacity layer is configured to be removed from the recyclable shrink label** in a caustic wash of a recycling process.”
- Claim 46 has been amended to read “wherein the **light blocking layer and the white pigment of the high opacity layer is configured to be removed from the recyclable** after a caustic wash cycle of a recycling process.”

Support for the amendments can be found in at least paragraphs [0056]-[0059] and [0080]. In view of the above, Applicant respectfully requests that the present rejection against dependent Claims 21, 34, and 46 be withdrawn.

The Office Action rejects Claim 38 because, according to the Office Action, it is unclear what is meant by “wherein the light blocking ink layer is removable in a caustic wash to preserve the recyclability of the container” because “it is unclear what this limitation means and what further structure the limitation is imparting to the claimed label.” (Office Action, at 5). While Applicant respectfully disagrees with the Office Action’s rejection of Claim 38, Applicant has amended Claim 38 solely to advance prosecution of the instant application. Claim 38 has been amended to read, in part, “wherein the light blocking ink layer is **configured to be** removable in a caustic wash to preserve the recyclability of the container.” Support for the amendments can be found in at least paragraphs [0056]-[0059] and [0080].

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Furthermore, Applicant disagrees with the Office Action's statement that the claim is indefinite because the language fails to impart a structure to the limitation. Section 2173.05(g) of the MPEP makes clear that "[t]here is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper." Furthermore, it has long been established that a "functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step."

In view of the above, Applicant respectfully requests that the present rejection against dependent Claim 38 be withdrawn.

### **Rejections under 35 U.S.C. § 103**

#### **Ota, Williams**

##### *Independent Claim 1*

The Office Action rejects independent Claim 1 as being unpatentable over Ota in view of Williams. According to the Office Action, Ota discloses all the features of Claim 1 except for:

- "a heat shrink film comprising a polyester selected from polyethylene terephthalate (PET), polyethylene terephthalate glycol-modified (PETG), and combinations thereof"
- "the light blocking ink layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm"

(Office Action, at 7).

According to the Office Action, the limitations "the light blocking ink layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm" and "recyclable" are "considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." (Id.). The Office Action further states that, because Ota "teaches similar materials" as the instant application, "the heat shrink label taught by Ota et al. would be capable of performing in the manner recited by the instant claims." (Id.).

The Office Action concedes that Ota "does not expressly teach that the heat shrink film is PET or PETG." (Id., at 7). However, the Office Action cites Williams as teaching the

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aforementioned limitation. (Id.). According to the Office Action, it would have been obvious to one of skill in the art to “utilize the PET or PETG heat shrink film taught by Williams et al. as the polyethylene based heat shrink film in the label taught by Ota et al., as Williams et al. teaches PET and PETG are commonly known shrink films used for shrinkable labels.” (Id., at 8).

While Applicant respectfully disagrees with the Office Action’s rejection of independent Claim 1, Applicant has amended independent Claim 1 solely to advance prosecution of the instant application. Independent Claim 1 has been amended to read “a light blocking ink layer comprising a light blocking component comprising a particulate, the particulate comprising at least one of metal, metal oxide, a reflective pigment, carbon black, and mica, the light blocking ink layer **configured** to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm.” In view of the amendments and remarks below, Applicant respectfully requests that the present rejection against independent Claim 1 be withdrawn.

Applicant respectfully disagrees with the Office Action’s rejection because the Office Action improperly fails to consider the functional limitations of independent Claim 1. Furthermore, a person of ordinary skill in the art would not be motivated to combine Ota with the teachings of Williams.

### ***The Office Action Improperly Disregards The Functional Limitations Of Independent Claim 1***

As noted above, the Office Action argues that the limitations reciting the light blocking ink layer is configured “to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm” is “considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process.” (Office Action, at 7). The Office Action further argues that because Ota teaches similar materials for the heat shrink film, the “heat shrink label taught by Ota et al. would be capable of performing in the manner recited by the instant claims.” (Id.).

Applicant respectfully disagrees with the Office Action’s rejection as the Office Action improperly disregards the aforementioned limitation and misunderstands the case law relating to functional language. Section 2173.05(g) of the MPEP makes clear that “[t]here is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper.” Furthermore, it has long been established that a “functional limitation must be evaluated and considered, just like any other limitation of the

claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step.” MPEP § 2173.05(g).

The Federal Circuit clarified the law of functional language in *In re Giannelli*, 739 F.3d 1375 (Fed. Cir. 2014). The claim at issue in *Giannelli* recited a row exercise machine comprising, *inter alia*, “an input assembly including a first handle portion ***adapted to be moved from a first position to a second position by a pulling force*** exerted by a user . . . .” *Id.* at 1376 (emphasis added). The Examiner in *Giannelli* rejected this claim over a patent that teaches a chest press exercise machine in which the user pushes on the handles to overcome the selected resistance. *Id.* at 1377. The Patent Trial and Appeal Board affirmed the Examiner’s rejections, and *Giannelli* appealed. *Id.* at 1378.

On appeal, the Director argued that the claims are obvious because the prior art has handles that ***can*** be pulled. *Id.* at 1379. The Federal Circuit rejected the Director’s capability arguments and reversed the Board’s holding. Specifically, the Court stated:

We have noted that, “the phrase ‘adapted to’ is frequently used to mean ‘made to,’ ‘designed to,’ or ‘configured to,’ . . . .” *Aspex Eyewear, Inc. v. Marchone Eyewear, Inc.*, 672 F.3d 1335, 1349 (Fed. Cir. 2012). Although the phrase can also mean “‘capable of’ or ‘suitable for,’” *id.*, here the written description makes clear that “‘adapted to,” as used in the ‘261 application, has a narrower meaning, *viz.*, that the claimed machine is ***designed or constructed to be used*** as a rowing machine whereby a pulling force is exerted on the handles.

*Id.* at 1379 (emphasis added). The Court reviewed *Giannelli*’s written description and concluded that “the relevant question before the Board was whether the apparatus described in the ‘447 patent was ‘made to,’ ‘designed to,’ or ‘configured to,’ allow the user to perform a rowing exercise by pulling on the handles as claimed in the ‘261 application.” *Id.* at 1380 (internal quotations omitted). The Court concluded that the “adapted to” phrase provided a limitation and, as such, the claims at issue were non-obvious in view of the prior art. *Id.* at 1381.

Similarly, in *Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, cited by the Federal Circuit in *Giannelli*, the Court construed the meaning of the term “adapted to” in the claim element reciting “said arms and said pair of magnetic members adapted to extend across respective side portions of a primary spectacle frame.” 672 F.3d 1335, 1348-49 (Fed. Cir. 2012). *Aspex* argued that “adapted to” should mean “suitable for” rather than “made to.” *Id.* at 1349. The Federal Circuit rejected

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Aspex's proposed construction and held that, in the context of the claim at issue, "the phrase 'adapted to' is most naturally understood to mean that the arms and magnetic members are *designed or configured to accomplish the specified objective, not simply that they can be made to serve that purpose.*" *Id.* (emphasis added).

In view of the case law, the Office Action improperly disregards the functional language of independent Claim 1 and improperly argues that because Ota teaches similar materials for the heat shrink film as independent Claim 1, it is therefore *capable* of performing in the manner recited by the instant claims. (Office Action, at 7). This rationale contradicts the case law regarding functional language. It is insufficient that Ota *could be capable* of blocking "at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm," but the correct inquiry is whether Ota is *designed or configured to* "block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." As the Office Action has failed to cite any language in Ota or Williams that discloses, teaches, or suggests that the light blocking ink layer is designed to "block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm," the Office Action fails to establish that Ota and Williams, alone or in combination, would have rendered obvious independent Claim 1.

***A Person Of Ordinary Skill In The Art Would Not Be Motivated To Combine Ota With Williams***

The Office Action concedes that Ota fails to teach that the heat shrink film is PET or PETG. (Office Action, at 7). Instead, the Office Action cites Williams as teaching a "recyclable ink printed label, wherein polymeric shrink wrap labels includes PET or PETG as commonly known shrink film used for labels." (*Id.*) However, to make this combination, the Office Action has impermissibly ignored the teachings of Williams. Applicant respectfully disagrees with the Office Action's rejection as a person of ordinary skill in the art would not be motivated to modify Ota with the teachings of Williams.

In *KSR International v. Teleflex*, 550 U.S. 398, 418 (2007), the Court repeatedly emphasized the value of determining if there is any "reason to combine" the various teachings in the art. The Court noted that "[a] patent composed of several elements is not proved obvious by demonstrating that each element was, independently, known in the prior art." *KSR*, 500 U.S. at 418. Thus, the Court has made abundantly clear that some reason to combine the various elements must be present in order to establish a *prima facie* case of obviousness. Furthermore, a prior art

reference must be considered in its entirety, i.e., *as a whole, including portions that would lead away from the claimed invention*. *W.L. Gore & Assoc., Inc., v. Garlock, Inc.*, 721 F.2d 1540 220 USPQ 303 (Fed. Cir. 1983); M.P.E.P. §2141.02(VI).

Ota and Williams teach shrink labels having entirely different constructions given the differing goals of each of the two shrink labels.

Ota teaches a shrink label with a specific construction that improves the light-shielding properties of ultraviolet and visible light in order to suppress the deterioration of the contents within a container (e.g., oxidation) so as to improve storage stability. (*See* Ota, at [0001]). The shrink label of Ota includes a heat-shrinkable film with a light-shielding layer and a printed layer. (*See id.*, at [0010]) The light-shielding layer of the shrink label is opaque and is formed of a coating layer that includes at least titanium white powder and/or aluminum powder that can not only serve as a white or silver colorant but also serve to block ultraviolet rays and visible light respectively. (*See id.*, at [0010], [0017]-[0018]). The printed layer of the shrink label is provided to form a pattern on the shrink label. (*See id.*, at [0010]). The pattern is usually opaque as it is printed over the opaque light-shielding layer. (*See id.*) In order to protect the printed layer, the outermost layer of the shrink film is formed by either the heat-shrinkable film or an overprint layer. (*See id.*)

Figures 1-4 illustrate the embodiments of the shrink label contemplated by Ota. In Figure 1, a light-shielding shrink label 100 has a light shielding layer 3 provided on the surface of the container, a printed layer 2, and a heat-shrinkable film 1 forming the outer-most layer. (*See id.*, at [0029].) Figures 2 and 3 show a similar design with a plurality of light shielding layers (3a, 3b, 3c), a printed layer 2 formed over the light shielding layers (3a, 3b, 3c), and a heat shrinkable film 1 forming the outer-most layer. (*See id.*, at [0030]-[0031].)

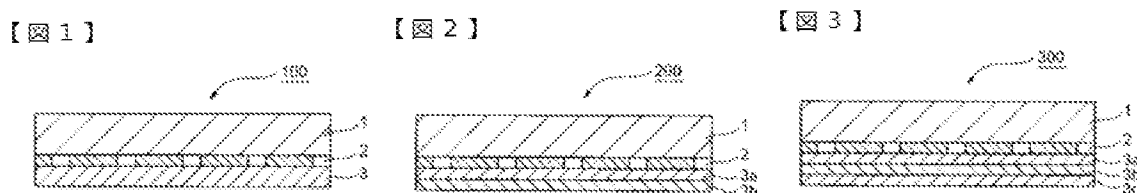
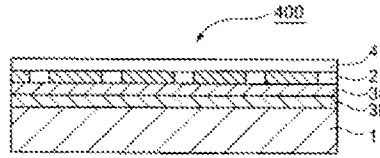


Figure 4 illustrates an embodiment of the shrink label where the heat shrinkable film 1 forms the innermost layer. In the light-shielding shrink label 400, the heat-shrinkable film 1 forms the inner-most layer with two light-shielding layers (3a, 3b) printed on the outside of the heat shrinkable film 1. The printed layer 2 is provided over the two light-shielding layers (3a, 3b) and

an overprint layer 4 forming the outer-most layer of the shrink label. (See id., at [0032].) In this embodiment, the overprint layer 4 is provided on the outer-most layer to protect the printed layer 2 and the light shielding layers (3a, 3b).



In each of the embodiments disclosed in Ota, the light-shielding layer(s) of the shrink label are overlaid with one or more additional layers.

By contrast, Williams teaches an ink composition that is “printable on commonly used polymeric container or polymeric label materials to form a durable ink layer that is more readily separable from the container or label during the recycling process.” (William , at [0006]). The ink layer “adheres to the polymeric substrate with sufficient bond strength to remain suitably intact during downstream processes requiring application of heat, or mechanical friction encountered during handling or transportation of the container.” (Id., at [0007]). The ink compositions disclosed in Williams is “applied to at least one surface of a polymeric substrate such as a food or beverage container.” (Id., at [0073]). It is understood that the ink composition is printed to form the outer-most layer of the label with sufficiently good bond strength to the underlying substrate such that it “may be handled, fitted, shipped, stacked, rubbed against adjacent containers, and the like . . . the dried ink layer [having] a coefficient of friction at or below 0.3, or between 0.10 and 0.40, or between 0.15 and 0.35.” (Id., at [0078]). According to Williams, the purpose of the dried outer ink layer is to ensure that the ink is “readily removable from the polymeric substrate” – whether a container or a label – to facilitate recycling of the polymeric material. (Id., at [0079]).

References must be considered in their entirety, i.e., *as a whole, including portions that would lead away from the claimed invention*. As such, the Office Action must first consider Ota in its entirety, including its teachings regarding the position of the printed layer on the disclosed shrink label *underneath* a protective layer to provide a label with suitable light-blocking properties. Second, the Office Action must consider any combined reference (i.e., Williams) in its entirety, including its teachings regarding printing the ink layer on the *outermost* portion of any polymeric material to provide for ease of removing the ink layer during recycling. When attempting to make a combination, the Office Action cannot merely pick select bits and pieces of multiple references while ignoring the references' substantial teachings and requirements that teach

away from combination with each other. When considering the references in their entirety, it is abundantly clear that there is no way to incorporate Williams' teaching of a polymeric label with an outer-most printed layer into Ota's shrink label with an internal printed layer. Indeed, the structures of the labels taught in both references are structurally incompatible. Under MPEP 2143(V), if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.

Furthermore, even disregarding the structural differences between the labels taught in Ota and Williams, a person of ordinary skill in the art, in considering the teachings of both references in their entirety, would not be motivated to combine Ota with Williams. A proper obviousness analysis does not ask whether one of ordinary skill in the art would have been motivated to combine only a *feature* or an *element* with the primary reference. Instead, an obviousness analysis must determine whether there was any motivation to combine the prior art reference considered in its *entirety* with the primary reference. In comparing the Ota with the Williams references in their entirety, the incompatibility between the two references is readily apparent. A person of ordinary skill would have no motivation to attempt to combine (to the extent possible) a reference directed to improving light-blocking properties in a label with a reference teaching a removable ink composition for facilitating the recycling of polymeric material. Williams is cited by the Office Action as teaching a polymeric shrink wrap label that include PET or PETG. However, in Williams, the PET/PETG material is relevant only in the context of *recycling* the PET/PETG material once the ink is removed from a container or label. Applicant notes that Ota is entirely silent on the recycling of a label and Williams is entirely silent on any light-blocking properties of a label. It is therefore unclear why a person of ordinary skill in the art would look to Williams to modify Ota. Therefore, there can be no *prima facie* case of obviousness.

For at least the reason stated above, Applicant respectfully submits that the Office Action fails to establish that Ota and Williams, alone or in combination, would have rendered obvious independent Claim 1, to one of ordinary skill in the art. Applicant therefore submits that independent Claim 1 is patentable over the asserted references.

Dependent Claims 2-10, 21-23, and 53-54 each depend from independent Claim 1 and include all the limitations of independent Claim 1, in addition to further distinguishing features. Applicant therefore respectfully requests that the rejections against dependent Claims 2-10, 21-23,

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and 53-54 be withdrawn, not only because such Claims depend from an allowable base Claim, but also because they recite novel features that are not taught or suggested by the prior art.

The additional reference applied in the rejection of Claim 55 (*Tsuchida*) is not believed to remedy the deficiency with the rejection of the base claim, Claim 1. Reconsideration and allowance of Claim 55 is respectfully requested.

#### *Independent Claim 24*

The Office Action rejects independent Claim 24 as being unpatentable over Ota in view of Williams. According to the Office Action, Ota discloses all the features of Claim 24 except for:

- “the light blocking ink layer being constructed for the recyclable shrink label to block at least 80 % of incident light having wavelengths in a range of 250 nm to 900 nm”
- “a heat shrink film comprising a polyester selected from polyethylene terephthalate (PET), polyethylene terephthalate glycol-modified (PETG), and combinations thereof”

(Office Action, at 11).

According to the Office Action, the limitations “the light blocking ink layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm” and “recyclable” are “considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process.” (Id.). The Office Action further states that, because Ota “teaches similar materials” as the instant application, “the heat shrink label taught by Ota et al. would be capable of performing in the manner recited by the instant claims.” (Id.).

The Office Action concedes that Ota “does not expressly teach that the heat shrink film is PET or PETG.” (Id., at 11). However, the Office Action cites Williams as teaching the aforementioned limitation. (Id.). According to the Office Action, it would have been obvious to one of skill in the art to “utilize the PET or PETG heat shrink film taught by Williams et al. as the polyethylene based heat shrink film in the label taught by Ota et al., as Williams et al. teaches PET and PETG are commonly known shrink films used for shrinkable labels.” (Id.).

While Applicant respectfully disagrees with the Office Action’s rejection of independent Claim 24, Applicant has amended independent Claim 24 solely to advance prosecution of the instant application. Independent Claim 24 has been amended to read “a light blocking ink layer comprising a light blocking component comprising a particulate, the particulate comprising at least

one of metal, metal oxide, a reflective pigment, carbon black, and mica, the light blocking ink layer **configured** to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm.” In view of the amendments and remarks below, Applicant respectfully requests that the present rejection against independent Claim 24 be withdrawn.

For substantially the same reason discussed with regard to the rejection of independent Claim 1, Applicant respectfully submits that the Office Action fails to establish that Ota and Williams, alone or in combination, would have rendered obvious independent Claim 24 to one of ordinary skill in the art. Applicant therefore submits that independent Claim 24 is patentable over the asserted references.

Dependent Claims 25-35 and 56-57 each depend from independent Claim 24 and include all the limitations of independent Claim 24, in addition to further distinguishing features. Applicant therefore respectfully requests that the rejections against dependent Claims 25-35 and 56-57 be withdrawn, not only because such Claims depend from an allowable base Claim, but also because they recite novel features that are not taught or suggested by the prior art.

The additional reference applied in the rejection of Claim 58 (*Tsuchida*) is not believed to remedy the deficiency with the rejection of the base claim, Claim 24. Reconsideration and allowance of Claim 58 is respectfully requested.

#### *Independent Claim 36*

The Office Action rejects independent Claim 36 as being unpatentable over Ota in view of Williams. According to the Office Action, Ota discloses all the features of Claim 36 except for:

- “a heat shrink film comprising a polyester selected from polyethylene terephthalate (PET), polyethylene terephthalate glycol-modified (PETG), and combinations thereof”
- “the light blocking ink layer being constructed for the recyclable shrink label to block at least 80 % of incident light having wavelengths in a range of 250 nm to 900 nm”

(Office Action, at 11).

According to the Office Action, the limitations “the light blocking ink layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm” and “recyclable” are “considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process.” (Id.). The Office Action further states that, because Ota

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“teaches similar materials” as the instant application, “the heat shrink label taught by Ota et al. would be capable of performing in the manner recited by the instant claims.” (Id.).

The Office Action concedes that Ota “does not expressly teach that the heat shrink film is PET or PETG.” (Id., at 11). However, the Office Action cites Williams as teaching the aforementioned limitation. (Id.). According to the Office Action, it would have been obvious to one of skill in the art to “utilize the PET or PETG heat shrink film taught by Williams et al. as the polyethylene based heat shrink film in the label taught by Ota et al., as Williams et al. teaches PET and PETG are commonly known shrink films used for shrinkable labels.” (Id.).

While Applicant respectfully disagrees with the Office Action’s rejection of independent Claim 36, Applicant has amended independent Claim 36 solely to advance prosecution of the instant application. Independent Claim 36 has been amended to read “a light blocking ink layer comprising a light blocking component comprising a particulate, the particulate comprising at least one of metal, metal oxide, a reflective pigment, carbon black, and mica, the light blocking ink layer **configured** to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm.” In view of the amendments and remarks below, Applicant respectfully requests that the present rejection against independent Claim 24 36 withdrawn.

For substantially the same reason discussed with regard to the rejection of independent Claim 1, Applicant respectfully submits that the Office Action fails to establish that Ota and Williams, alone or in combination, would have rendered obvious independent Claim 36 to one of ordinary skill in the art. Applicant therefore submits that independent Claim 36 is patentable over the asserted references.

Dependent Claims 37-51 each depend from independent Claim 36 and include all the limitations of independent Claim 36, in addition to further distinguishing features. Applicant therefore respectfully requests that the rejections against dependent Claims 37-51 be withdrawn, not only because such Claims depend from an allowable base Claim, but also because they recite novel features that are not taught or suggested by the prior art.

The additional reference applied in the rejection of Claim 52 (*Tsuchida*) is not believed to remedy the deficiency with the rejection of the base claim, Claim 36. Reconsideration and allowance of Claim 52 is respectfully requested.

**Williams, Ota**

*Independent Claim 1*

The Office Action rejects independent Claim 1 as being unpatentable over Williams in view of Ota. According to the Office Action, Williams discloses all the features of Claim 1 except for:

- a heat shrink film “having a thickness from 15  $\mu\text{m}$  to 100  $\mu\text{m}$ ”
- “the light blocking ink layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm.

(Office Action, at 16).

According to the Office Action, the limitation “the light blocking ink layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm” is “considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process.” (Id.). The Office Action further states that, because Williams “teaches similar materials” as the instant application, “the heat shrink label taught by Williams et al. would be capable of performing in the manner recited by the instant claims.” (Id.).

The Office Action concedes that Williams “does not expressly teach the thickness of the shrink wrap label (heat shrink film).” (Id.). However, the Office Action cites Ota as teaching the aforementioned limitation. (Id. at 16-17). According to the Office Action, as “both Williams et al. and Ota et al. are directed to heat shrinkable films with ink layers applied thereon, it would have been obvious to one of ordinary skill in the art to modify the thickness of the label taught by William’s et al. to fall within the range taught by Ota et al. as Ota et al. teaches such thicknesses are generally used for heat shrink labels.” (Id., at 17).

While Applicant respectfully disagrees with the Office Action’s rejection of independent Claim 1, Applicant has amended independent Claim 1 solely to advance prosecution of the instant application. Independent Claim 1 has been amended to read, in part, “a light blocking ink layer comprising a light blocking component comprising a particulate, the particulate comprising at least one of metal, metal oxide, a reflective pigment, carbon black, and mica, the light blocking ink layer **configured** to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm.” In view of the amendments and remarks below, Applicant respectfully requests that the present rejection against independent Claim 1 be withdrawn.

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Applicant respectfully disagrees with the Office Action's rejection because the Office Action improperly fails to consider the functional limitations of independent Claim 1. Furthermore, a person of ordinary skill in the art would not be motivated to combine Williams with the teachings of Ota.

***The Office Action Improperly Disregards The Functional Limitations Of Independent Claim 1***

The Office Action argues that the limitation reciting the light blocking ink layer is configured “to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm” is “considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process.” (Office Action, at 16). The Office Action further argues that because Ota teaches similar materials for the heat shrink film, the “heat shrink label taught by Ota et al. would be capable of performing in the manner recited by the instant claims.” (Id. at 17).

As discussed previously, in view of the case law, the Office Action improperly disregards the functional language of independent Claim 1 and improperly argues that because Ota teaches similar materials for the heat shrink film as independent Claim 1, it is therefore **capable** of performing in the manner recited by the instant claims. (Office Action, at 17). This rationale contradicts the case law regarding functional language. It is insufficient that Ota **could be capable** of blocking “at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,” but the correct inquiry is whether Ota is **designed or configured to** “block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm.” As the Office Action has failed to cite any language in Williams or Ota that discloses, teaches, or suggests that the light blocking ink layer is designed to “block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,” the Office Action fails to establish that Williams or Ota, alone or in combination, would have rendered obvious independent Claim 1.

***A Person Of Ordinary Skill In The Art Would Not Be Motivated To Combine Ota With Williams***

The Office Action concedes that Williams fails to teach the claimed thickness of the shrink wrap label (heat shrink film). (Office Action, at 16). Instead, the Office Action cites Ota as teaching “the heat shrink film having a thickness from 30  $\mu$ m to 100  $\mu$ m.” (Id. at 16-17). However, to make this combination, the Office Action has impermissibly ignored the teachings of Williams.

Applicant respectfully disagrees with the Office Action's rejection as a person of ordinary skill in the art would not be motivated to modify Williams with the teachings of Ota.

As discussed above Williams and Ota teach shrink labels having entirely different constructions, wherein the heat shrink film is used and positioned in entirely different ways on the shrink label given the differing goals of each of the two shrink labels.

As mentioned previously, references must be considered in their entirety, i.e., *as a whole, including portions that would lead away from the claimed invention*. The Office Action must first consider Williams in its entirety, including its teaching regarding printing the ink layer on the *outermost* portion of any polymeric material – whether container or label – to provide for ease of removing the ink layer during recycling. Second, the Office Action must consider the Ota reference in its entirety, including its teaching regarding the position of the printed layer on the disclosed shrink label *underneath* a protective layer to provide a label with suitable light-blocking properties. When attempting to make a combination, the Office Action cannot merely pick select bits and pieces of multiple references while ignoring the references' substantial teachings and requirements that teach away from combination with each other. When considering the references in their entirety, it is abundantly clear that there is no way to incorporate Ota's shrink label with an internal printed layer with Williams' teaching of a polymeric label or container with an outermost printed layer of ink. Indeed, the structures of the labels taught in both references are structurally incompatible. Under MPEP 2143(V), if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.

Furthermore, even disregarding the structural differences between the labels taught in Williams and Ota, a person of ordinary skill in the art, in considering the teachings of both references in their entirety, would not be motivated to combine Williams with Ota. A proper obviousness analysis does not ask whether one of ordinary skill in the art would have been motivated to combine only a *feature* or an *element* with the primary reference. Instead, an obviousness analysis must determine whether there was any motivation to combine the prior art reference considered in its *entirety* with the primary reference. In comparing the Williams with the Ota references in their entirety, the incompatibility between the two references is readily apparent. A person of ordinary skill would have no motivation to attempt to combine (to the extent possible) a reference directed to teaching a removable ink composition for facilitating the recycling

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of polymeric material with a reference directed to improving light-blocking properties on a label. Ota is cited by the Office Action as teaching a thickness of the heat shrinkable film within the claimed range of independent Claim 1. However, Williams is silent on the thickness of the polymeric label because the polymeric label is relevant only in the context of **recycling** a container and/or label once the ink is removed from the container and/or label. Indeed, a focus of Williams is the application of the ink layer **directly** on the container. (See e.g., Williams at [0006] “In general, the present disclosure is directed to ink compositions that can be applied or printed onto a polymeric substrate. For example, in some examples the polymeric substrate may be a container for a food or a beverage, and in other examples may be a polymeric film label on a bottle or container.”) The structure or composition of the shrink label (i.e., the thickness of the heat shrink film) is entirely irrelevant to the invention taught by Williams. Furthermore, Applicant notes that Ota is entirely silent on the recycling of a label and Williams is entirely silent on any light-blocking properties of a label. It is therefore unclear why a person of ordinary skill in the art would look to Ota to modify Williams. Therefore, there can be no *prima facie* case of obviousness.

For at least the reason stated above, Applicant respectfully submits that the Office Action fails to establish that Williams and Ota, alone or in combination, would have rendered obvious independent Claim 1, to one of ordinary skill in the art. Applicant therefore submits that independent Claim 1 is patentable over the asserted references.

Dependent Claims 2-10, 21-23, and 53-54 each depend from independent Claim 1 and include all the limitations of independent Claim 1, in addition to further distinguishing features. Applicant therefore respectfully requests that the rejections against dependent Claims 2-10, 21-23, and 53-54 be withdrawn, not only because such Claims depend from an allowable base Claim, but also because they recite novel features that are not taught or suggested by the prior art.

The additional reference applied in the rejection of Claim 55 (*Tsuchida*) is not believed to remedy the deficiency with the rejection of the base claim, Claim 1. Reconsideration and allowance of Claim 55 is respectfully requested.

#### *Independent Claim 24*

The Office Action rejects independent Claim 24 as being unpatentable over Williams in view of Ota. According to the Office Action, Williams discloses all the features of Claim 24 except for:

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- a heat shrink film “having a thickness from 30  $\mu\text{m}$  to 100  $\mu\text{m}$ ”
- “a light blocking ink layer . . . comprising a light blocking component comprising a powder comprising one or more metals”
- “the light blocking ink layer being constructed for the recyclable shrink label to block at least 80 % of incident light having wavelengths in a range of 250 nm to 900 nm”

(Office Action, at 20-22).

The Office Action concedes that Williams “does not expressly teach the thickness of the shrink wrap label (heat shrink film) or that the colorant for another one of the multiple ink layers including a metal.” (Id. at 20). However, the Office Action cites Ota as teaching the aforementioned limitation. (Id.). According to the Office Action, as “Ota et al. is in the same field of endeavor” and “teaches that the thickness of the heat shrinkable film will vary depending on the material and size of the bottle to which the label is applied, but is generally in the range of 20 to 120 $\mu\text{m}$  . . . which overlaps with the claimed range of 30 to 100 $\mu\text{m}$ .” (Id., at 20-21). Furthermore, the Office Action states that Ota teaches “that the light shielding material used in the light shielding layers can be metal oxides such as titanium dioxide and iron oxide, also taught by Williams et al[.], but can also include metals such as aluminum and copper.” (Id., at 21).

According to the Office Action, the limitation “the light blocking ink layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm” is “considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process.” (Id. at 22). The Office Action further states that, because Williams “teaches similar materials” as the instant application, “the heat shrink label taught by Williams et al. in view of Ota et al. would be capable of performing in the manner recited by the instant claims.” (Id.).

For substantially the same reason discussed with regard to the rejection of independent Claim 1, Applicant respectfully submits that the Office Action fails to establish that Williams and Ota, alone or in combination, would have rendered obvious independent Claim 24, to one of ordinary skill in the art. Applicant therefore submits that independent Claim 24 is patentable over the asserted references.

Dependent Claims 25-35 and 56-57 each depend from independent Claim 24 and include all the limitations of independent Claim 24, in addition to further distinguishing features.

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Applicant therefore respectfully requests that the rejections against dependent Claims 25-35 and 56-57 be withdrawn, not only because such Claims depend from an allowable base Claim, but also because they recite novel features that are not taught or suggested by the prior art.

The additional reference applied in the rejection of Claim 58 (*Tsuchida*) is not believed to remedy the deficiency with the rejection of the base claim, Claim 24. Reconsideration and allowance of Claim 58 is respectfully requested.

*Independent Claim 36*

The Office Action rejects independent Claim 36 as being unpatentable over Ota in view of Williams. According to the Office Action, Williams discloses all the features of Claim 36 except for:

- a heat shrink film “having a thickness from 30  $\mu\text{m}$  to 100  $\mu\text{m}$ ”
- “a light blocking ink layer . . . comprising a light blocking component comprising a powder comprising one or more metals”
- “the light blocking ink layer being constructed for the recyclable shrink label to block at least 80 % of incident light having wavelengths in a range of 250 nm to 900 nm”

(Office Action, at 20-22).

The Office Action concedes that Williams “does not expressly teach the thickness of the shrink wrap label (heat shrink film) or that the colorant for another one of the multiple ink layers including a metal.” (Id. at 20). However, the Office Action cites Ota as teaching the aforementioned limitation. (Id.). According to the Office Action, as “Ota et al. is in the same field of endeavor” and “teaches that the thickness of the heat shrinkable film will vary depending on the material and size of the bottle to which the label is applied, but is generally in the range of 20 to 120 $\mu\text{m}$  . . . which overlaps with the claimed range of 30 to 100 $\mu\text{m}$ .” (Id., at 20-21). Furthermore, the Office Action states that Ota teaches “that the light shielding material used in the light shielding layers can be metal oxides such as titanium dioxide and iron oxide, also taught by Williams et al[.], but can also include metals such as aluminum and copper.” (Id., at 21).

According to the Office Action, the limitation “the light blocking ink layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm” is “considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit

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the structure or the process.” (Id. at 22). The Office Action further states that, because Williams “teaches similar materials” as the instant application, “the heat shrink label taught by Williams et al. in view of Ota et al. would be capable of performing in the manner recited by the instant claims.” (Id.).

For substantially the same reason discussed with regard to the rejection of independent Claim 1, Applicant respectfully submits that the Office Action fails to establish that Ota and Williams, alone or in combination, would have rendered obvious independent Claim 36, to one of ordinary skill in the art. Applicant therefore submits that independent Claim 36 is patentable over the asserted references.

Dependent Claims 37-51 each depend from independent Claim 36 and include all the limitations of independent Claim 36, in addition to further distinguishing features. Applicant therefore respectfully requests that the rejections against dependent Claims 37-51 be withdrawn, not only because such Claims depend from an allowable base Claim, but also because they recite novel features that are not taught or suggested by the prior art.

The additional reference applied in the rejection of Claim 52 (*Tsuchida*) is not believed to remedy the deficiency with the rejection of the base claim, Claim 36. Reconsideration and allowance of Claim 52 is respectfully requested.

#### **No Disclaimers or Disavowals**

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

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**Co-Pending Applications of Assignee**

Applicant wishes to draw the Examiner's attention to the following co-pending applications of the present application's assignee.

| <b>Docket No.</b> | <b>Serial No.</b> | <b>Title</b>                                            | <b>Filed</b>   |
|-------------------|-------------------|---------------------------------------------------------|----------------|
| BWHIT-00001-D1    | 18/595,094        | RECYCLABLE HEAT SHRINK FILM<br>FOR RECYCLABLE CONTAINER | March 04, 2024 |
| BWHIT-00001-C2    | 18/667,712        | RECYCLABLE HEAT SHRINK FILM<br>FOR RECYCLABLE CONTAINER | May 17, 2024   |

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 60-5001.

Respectfully submitted,  
VIA LLP

Dated: September 3, 2025

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