

Design Patent ProGuide – Drawings
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Quick Reference Guide

DO:

- Treat the drawings as the claim where nothing is left to inference
- Provide a sufficient number of views to fully disclose the design's appearance
- Ensure all views are internally consistent in shape, proportion, and detail
- Use clear, uniform, reproducible line quality suitable for examination and copying
- Apply surface shading where necessary to convey contour and depth
- Use broken lines for unclaimed article structure, environment, and as appropriate
- Ensure all solid-line features are fully enabled by corroborating views
- Confirm that underside or interior-looking features are either enabled or disclaimed
- Verify replacement drawings strictly comply with 37 CFR § 1.121(d)
- Assume every drawing choice will be scrutinized under § 112(a), § 112(b), and § 132
- State explicitly what broken lines depict
- Describe any zig-zag cut lines, stippling purpose, or stitching features in the specification

DON'T:

- Don't rely on drawings that leave any aspect of the design to conjecture
- Don't show alternate positions of a component in a single view
- Don't use broken lines to depict hidden or internal features of opaque objects
- Don't mix photographs and line drawings in the same application
- Don't omit views for three-dimensional designs without an explicit explanatory statement

Don't add surface shading during prosecution if the surface shape was not evident at filing

Don't introduce new contours, edges, or proportions through "clarifying" replacement drawings

Don't show mesh, texture, or interior linework in solid lines unless fully supported

Don't use sectional views to show internal construction or function

Don't assume a drawing objection is "minor" as many can escalate into § 112 rejections

Don't use "illustrative purposes only" or "disclaimed" terminology

Don't allow broken lines to visually merge into solid lines at reproduction scale

Don't line entire surfaces for color without considering impact on contour shading

1. Introduction and Theory

The drawings are the heart of a U.S. design patent application. Unlike utility patents, where written description and claims play a dominant role, the scope, substance, and validity of a design patent are defined almost entirely by what is shown in the drawings. As a result, drawing defects are not merely formalities; they can render a design indefinite, non-enabled, unsupported, or even fatally defective.

The USPTO requires that a design be represented by drawings or photographs that clearly and completely disclose the appearance of the claimed design. The drawings must contain a sufficient number of views to constitute a complete disclosure, must be internally consistent, and must use proper conventions, such as surface shading and line types, to convey three-dimensional form and claim scope. Any ambiguity or inconsistency in the drawings is evaluated against the statutory requirements of 35 U.S.C. § 112 and the regulatory requirements of 37 CFR §§ 1.84 and 1.152.

Since amended or replacement drawings are common during prosecution, drawing issues also implicate the prohibition on new matter under 35 U.S.C. § 132. As a result, drawing compliance is not only a matter of initial filing quality, but of prosecution strategy.

This ProGuide addresses drawing requirements as they arise in U.S. design patent prosecution. It explains how the USPTO evaluates drawings for completeness, clarity, and consistency, and how drawing defects intersect with rejections for indefiniteness, lack of enablement, and improper claim scope. The focus is not on drafting aesthetics, but on legal sufficiency.

Note: This ProGuide is subject to certain limitations, which are set forth in Appendix 3 of this document.

2. Recommended Form

The following drafting practices are recommended to promote compliance with USPTO drawing requirements and to reduce the likelihood of drawing-based objections or rejections.

2.1 Figure Presentation

Each figure should be clearly numbered and labeled in numerical sequence (e.g., Fig. 1, Fig. 2, Fig. 3).

All figures appearing on a drawing sheet should be included on any replacement version of that sheet.

Figures should be arranged to allow clear visual comparison between views without crowding or overlap.

2.2 View Selection and Disclosure

Include a sufficient number of views to disclose the complete appearance of the design, including any three-dimensional aspects.

Where a view is omitted because the surface is flat, unornamented, or identical to another surface, include a clear explanatory statement in the specification.

If a perspective view is provided, ensure that it is consistent with all orthographic views and does not introduce features not shown elsewhere.

CAUTION: Do not use the term “unornamented” to describe a surface that is not physically flat. If a visible surface includes structural contours, even if they lack decorative patterns, a view must be provided, or the specification must explicitly state the surface is flat and devoid of surface ornamentation.

2.3 Line Quality and Reproducibility

Use uniform, dark, and continuous lines suitable for high-quality reproduction.

Avoid pixelation, fading, broken lines, or inconsistent line weight that could obscure edges or contours.

Fine details (e.g., mesh, perforations, or texture) should be rendered clearly and consistently across views.

2.4 Surface Shading

Apply surface shading where necessary to clearly convey contour and depth. Ensure that curved, convex, concave, or sloped surfaces are distinguishable from flat surfaces.

Do not apply shading to unclaimed subject matter shown in broken lines.

Line shading density may be varied to convey curvature and depth.

Parallel line shading is commonly used for opaque surfaces; stippling or oblique line shading may be used where appropriate to distinguish material or reflectivity.

Shading techniques should be applied consistently across views.

Use oblique line shading specifically to represent transparent, translucent, and highly polished or reflective surfaces, such as glass or mirrors. This drafting convention distinguishes these materials from standard opaque surfaces, which typically use parallel or stippled shading.

2.5 Broken Lines

Use broken lines only to depict visible environmental or unclaimed structure. Do not use broken lines to show hidden internal features of opaque claimed subject matter.

Apply broken lines consistently across all views in which the unclaimed structure appears.

Avoid broken-line usage that could suggest alternate positions, hidden features, or internal construction.

2.6 Consistency Across Views

Verify that all views depict the same design configuration and proportions.

Ensure that features appearing in one view are not omitted or altered in another view unless intentionally disclaimed.

Confirm that perspective views corroborate, rather than conflict with, orthographic views.

2.7 Replacement Drawings

Label all post-filing drawing sheets as “Replacement Sheet” or “New Sheet,” as required.

Do not label individual figures as “amended.”

Confirm that any changes do not alter the appearance of the claimed design or introduce new matter.

2.8 Avoid Framing or Layout Elements Intended Only to Aid Examiner Review

Drafting Note: Do not include boxes, borders, frames, or other layout elements around figures (including sectional or magnified views) that are intended solely to guide the examiner's attention. Any line shown in the drawings risks being interpreted as part of the disclosed design or as obscuring the claimed ornamental appearance.

3. Rules and Guides for Drawings

3.1 The Drawings Constitute the Entire Disclosure of the Design

In a design patent application, the drawings (or photographs) define the claimed design. Nothing regarding the design should be left to conjecture. An insufficient drawing may be fatal to patentability and validity.

3.2 A Sufficient Number of Views Is Required to Show the Complete Appearance

The drawings must include enough views to fully disclose the appearance of the design. For inherently three-dimensional designs, multiple views are generally required. In limited circumstances, a single planar view may be sufficient where the design is two-dimensional and fully understood from that view. Two-dimensional designs are typically "flat" articles such as shoe bottoms, rugs, or placemats.

3.3 Every Line must be sufficiently Clear, Uniform, and Reproducible

Since the drawings constitute the entire disclosure of a design patent, every line must be sufficiently clear, uniform, and reproducible to reliably convey the claimed ornamental appearance without ambiguity. If drawing lines are faint, broken, pixelated, uneven in weight, or otherwise of insufficient quality to permit consistent reproduction and examination, the Examiner will object to the drawings or issue a rejection and require new formal drawings. Drawing defects relating to line quality ordinarily result in objections under 37 CFR § 1.84. Only where the line quality is so poor that the overall appearance of the design cannot be discerned from the drawings as filed may such defects rise to the level of a rejection under 35 U.S.C. § 112(a) for lack of enablement.

3.4 Inconsistent Views Are Not Permissible

All drawing views must be consistent with one another. When inconsistencies are found, the examiner should object to the drawings and require correction. If the inconsistencies are so severe that the overall appearance of the design is unclear, the claim must be rejected as non-enabled and indefinite.

3.5 Surface Shading Is Used to Convey Contour and Depth

Surface shading is not always mandatory, but it is often necessary to clearly show the character and contour of three-dimensional surfaces. Lack of appropriate shading may render a design non-enabled or indefinite. Conversely, adding shading after filing may raise new matter issues if surface shape was not originally evident.

3.6 Broken Lines May Show Environmental Structure, Not Hidden Features

Broken lines may be used to depict visible environmental structure or unclaimed portions of the article, but may not be used to show hidden planes, surfaces, or internal features of opaque claimed subject matter that cannot be seen in normal use. Broken lines must not be used to create ambiguity regarding claim scope. For example, broken lines may be used to show a surrounding product casing or external environment in which the claimed design is used, but may not be used to depict internal walls, ribs, or structural features of an opaque housing that are not visible in normal use.

3.7 Alternate Positions in the Same View Are Not Permitted

A single drawing view may not show alternate positions of a design component using solid and broken lines. Such depictions are improper and may lead to objection or rejection.

3.8 Sectional Views Are Limited

Sectional views used solely to show internal construction or functional features are improper and should be canceled. A sectional view may be permitted only where necessary to clarify the exterior contour of the design and only if supported by the original disclosure.

3.9 Surface Treatment Is Part of the Design

Surface treatment may be either two-dimensional or three-dimensional in nature. Two-dimensional surface treatment includes applied graphics, printed patterns, decals, or color features that do not create relief. Three-dimensional surface treatment includes features such as beading, ribs, grooves, embossing, or textures that create actual surface relief and form part of the article's configuration.

Surface treatment, including ornamentation, texture, or graphics, is part of the ornamental appearance of the design and must be shown consistently. Removal of two-dimensional surface treatment may be permissible if the underlying configuration was clearly disclosed and applicant had possession of the design without the surface treatment at filing. Removal of three-dimensional surface treatment (e.g., beading, grooves, ribs) that is integral to the configuration will introduce new matter because the underlying configuration would not have been apparent as originally filed.

3.10 Photographs and Drawings Cannot Be Mixed

Photographs and ink drawings may not be combined in a single design application. Photographs are permitted only where they are the only practicable medium and must clearly disclose the design without environmental structure.

3.11 Replacement Drawings Must Strictly Comply with Procedural Rules

Replacement drawing sheets must include all figures from the prior version of the sheet, must not be labeled “amended,” and must comply with 37 CFR 1.121(d). Failure to comply may result in abandonment. If all figures on a specific drawing sheet are canceled, a replacement sheet is not required. Instead, an “Annotated Sheet” must be provided in the amendment or remarks section, showing the canceled figures with appropriate markings and an explanation of the change.

3.12 Magnified or Enlarged Views

Magnified or enlarged views may be used to clarify fine details of a design, provided that the magnified view is consistent with the corresponding unmagnified view and does not introduce new features. A magnified view should be clearly labeled as an enlarged view of a specific portion of another figure. Differences in scale alone do not create inconsistency, but the magnified view must accurately represent the same ornamental features shown elsewhere.

3.13 Exploded Views

Exploded views may be used in limited circumstances to illustrate the relative positioning of components, provided that the exploded arrangement does not suggest functional assembly steps or claim multiple configurations. All components shown in solid lines in an exploded view are treated as part of the claimed design unless expressly disclaimed. Where an exploded view is provided, an assembled view should also be included to show the design in its intended configuration. The exploded view must be consistent with the assembled view and should not depict assembly mechanisms or functional relationships beyond what is necessary to show the relative positioning of claimed ornamental features.

An exploded view of a multi-component container may show the lid, body, and base separated vertically with spacing between components. All components shown in solid lines are claimed unless disclaimed in broken lines. The view should use proper bracketing or spacing conventions and be identified as “Fig. X is an exploded perspective view.”

3.14 “Illustrative purposes only” is improper for broken-line statements

A broken-line statement should not state that dashed lines are “for illustrative purposes only” because this fails to identify what the broken lines depict. Instead, the statement must specify that the broken lines show portions of the article (or environment) that form no part of the claimed design.

3.15 Zig-zag cut lines used for clarity must be expressly described

When zig-zag broken cut lines are used to remove portions of the article for illustrative clarity, the specification must expressly describe the purpose of those cut lines; omission of such a description is objectionable.

3.16 Broken lines must remain visually distinct from solid lines

Broken lines must be clearly distinguishable from solid lines at examination and printing scales; if broken lines visually merge into solid lines, replacement drawings are required.

3.17 Broken-line weight, length, and pattern must be consistent across figures

Broken lines must be drafted consistently across all views; variations in dash length, spacing, or weight can render the drawings objectionable and may create ambiguity as to whether a feature is claimed.

3.18 Stitching depicted in broken lines must be affirmatively identified

If broken lines are intended to depict stitching that forms part of the claimed design, the specification must explicitly state that purpose; where multiple meanings of broken lines exist, different line patterns (e.g., dashed versus dash-dot) may be required to avoid ambiguity.

3.19 Stippling must have a stated visual purpose

When stippling is used as shading, the specification should state what the stippling represents, which is most commonly a contrast in material or surface appearance, to prevent ambiguity regarding surface contour or ornamentation.

3.20 Exploded views must not rely on lead lines to separate components

Exploded views should not be created using lead lines to pull apart components of the design. Instead, proper exploded-view conventions (such as bracket symbols) should be used, and the figure description should expressly identify the view as exploded.

3.21 Utility-style “disclaimed” terminology is improper in design drawings

Design patent specifications should not describe portions of a design as “disclaimed” or “unclaimed.” Rather, the proper phrasing is that such portions are shown to illustrate elements that form no part of the claimed design.

3.22 Poor line quality can support §112(a) and §112(b) rejections

Where poor line quality prevents the ordinary observer from understanding the design’s shape or appearance, examiners may issue rejections under §112(a) (lack of enablement) and §112(b) (indefiniteness), not merely formal drawing objections.

3.23 Converting solid lines to broken lines raises new-matter concerns

When correcting unclear drawings, converting solid lines to broken lines (or vice versa) may raise written-description and new-matter issues under §112(a) and §132 / 37 CFR §1.121; such changes must be evaluated carefully to avoid altering the originally disclosed design.

3.24 Magnified Views Must Accurately Represent Scale

When a magnified or enlarged view is provided, it must accurately represent the proportions and features of the corresponding unmagnified view. Exaggeration of features for clarity that distorts proportions may render the design indefinite. If significant enlargement is needed, the magnification ratio should be consistent and stated (e.g., “Fig. 7 is an enlarged view of Detail A at 2x magnification”).

3.25 Computer-Generated Icons and Graphical User Interfaces

Design patents for computer-generated icons must show the icon applied to or embodied in a specific article (e.g., a computer screen, display panel, or portion thereof). The article may be shown in broken lines. Pure surface treatment without an article is not proper subject matter under 35 U.S.C. §171.

3.26 Conflict Between Color Lining and Shading

While the USPTO allows symbols to represent color in black and white drawings, lining an entire surface for color may interfere with the ability to show contours via surface shading. This can lead to rejections under § 112(a) because the examiner cannot simultaneously discern color and three-dimensional form. To avoid this, consider partially lining a surface for color or providing a separate shaded view for clarity.

3.27 CAD Drawings and Line Drawings May Not Be Mixed in a Single Application

While some examiners accept CAD-style drawings where all views are consistently rendered, mixing CAD-style renderings with traditional line drawings is routinely objected to. Mixing different drawing media can render the disclosure non-enabled or indefinite where the contours, edges, or surface transitions cannot be consistently discerned across views.

3.28 Figures Must Be Numbered in Consecutive Numerical Order

Drawing figures must be numbered consecutively without skipping numbers. Non-consecutive figure numbering (e.g., jumping from Fig. 2 to Fig. 5) is improper and will result in a drawing objection requiring correction under 37 CFR § 1.84.

3.29 Sectional Views Must Be Identified Using the “FIG. X” Convention

Sectional views must be identified using standard figure numbering conventions (e.g., “FIG. 3”) and may not be labeled using informal or descriptive identifiers alone. Failure to properly identify sectional views may result in a drawing objection.

3.30 Extraneous Instructional or Framing Indicia Are Not Permitted in Drawings

Drawings must not include extraneous instructional, framing, or layout indicia, such as boxes, borders, or guide rectangles, that do not form part of the claimed design. Such indicia may obscure or confuse the ornamental disclosure and are improper.

3.31 Drawing Objections Will Not Be Held in Abeyance

Drawing objections must be addressed when raised and may not be deferred or held in abeyance pending resolution of other issues. Requests to postpone correction of drawing defects are improper.

3.32 A Single Figure May Not Combine a Claimed Design View and an Environmental Use View

A single figure may not simultaneously depict the claimed design in isolation and the design in an environmental or use context. Combining these depictions in one view creates ambiguity regarding claim scope and is improper.

4. Application of Rules to Objections and Rejections

4.1 Line Quality and Reproducibility

In Application 29/857,470, the drawings were objected to because the line quality was insufficient for proper reproduction. The figures contained faint and broken lines that did not clearly define the claimed design. The Applicant submitted new formal drawing sheets with uniform, dark, and clearly defined lines, replacing all prior figures. Rule 3.3, Rule 3.22

4.2 Ambiguous Mesh or Texture Features

In Application 29/880,526, the claim was rejected under 35 U.S.C. § 112(b) because the mesh structures shown in solid lines appeared disconnected from the exterior frame, rendering the scope of the claimed design indefinite. The Examiner concluded that the drawings failed to clearly convey whether the mesh was part of the claimed ornamental appearance or merely an unclaimed interior feature.

In response, the Applicant amended the drawings by converting the mesh structure and associated interior linework to broken lines. This revision clarified that the mesh features formed no part of the claimed design and eliminated the ambiguity created by the apparent disconnection between the mesh and the exterior frame. Rule 3.1, Rule 3.6, Rule 3.9

4.3 Non-Enabled Underside or Internal Features

In Application 29/872,643, the claim was rejected under 35 U.S.C. § 112(a) because the drawings included protruding underside elements that could not be fully understood from the

views provided. The Examiner determined that the design disclosure was not enabling because the underside features were depicted in a manner that suggested dimensional structure without sufficient visual explanation.

To resolve the rejection, the Applicant amended the drawings by depicting the underside protrusions in broken lines. This amendment disclaimed the non-enabled internal or underside features and clarified that the claimed design was limited to the exterior ornamental appearance that was adequately shown. Rule 3.1, Rule 3.2, Rule 3.6

4.4 Improper “Illustrative Purposes Only” Broken-Line Statement

In Application 29/915,188, the Examiner objected to the broken-line statement because it described the dashed lines as being “for illustrative purposes only.” The Examiner found this language improper because it did not identify what the broken lines represented and failed to clearly define whether the broken-line features formed part of the claimed design.

The Applicant amended the broken-line statement to clarify that the broken lines depicted portions of the article that formed no part of the claimed design. This revision properly defined the scope of the claim and eliminated uncertainty regarding the meaning of the broken-line disclosure. Rule 3.6, Rule 3.14

4.5 Zig-Zag Cut Lines Not Described

In Application 29/915,188, the Examiner objected to the drawings because they included zig-zag broken cut lines without any explanation in the specification. The Examiner concluded that the omission created ambiguity regarding what the cut lines represented and whether they conveyed a boundary of the claimed design or merely an illustrative drafting convention.

To address the objection, the Applicant amended the specification to state that the zig-zag broken cut lines removed portions of the design for illustrative clarity. This amendment clarified that the cut lines did not define the scope of the claimed design, but instead were used to shorten the disclosure and focus attention on the claimed portions. Rule 3.15

4.6 Broken Lines Merging into Solid Lines

In Application 29/828,633, the Examiner objected to the drawings because the broken lines visually merged into solid lines, making it unclear which features were claimed and which features were unclaimed. The Examiner determined that the linework was insufficiently distinct and failed to provide clear public notice of claim scope.

In response, the Applicant submitted replacement drawing sheets in which the broken lines were clearly distinguishable from the solid lines. The corrected drawings eliminated the visual blending of line types and clarified the boundaries of the claimed ornamental design. Rule 3.6

4.7 Inconsistent Broken-Line Pattern Across Views

In Application 29/851,330, the Examiner objected to the drawings because broken lines were used inconsistently across the views. Certain features appeared in broken lines in some figures but were rendered differently in other figures, including variations in line weight and dash length. The Examiner concluded that these inconsistencies created ambiguity as to whether certain features were intended to be claimed or disclaimed.

To correct the objection, the Applicant revised the drawings to use consistent broken-line patterns across all views. The Applicant also amended the broken-line statement to match the revised disclosure and clearly confirm that the broken-line features formed no part of the claimed design. Rule 3.4, Rule 3.17

4.8 Ambiguous Stitching Depicted in Broken Lines

In Application 29/851,330, the Examiner objected because the drawings included short, evenly spaced broken lines that appeared to depict stitching, but the specification did not identify them as stitching. The Examiner found that the omission created uncertainty as to whether the broken lines represented stitching that was claimed ornamentation or merely an unclaimed drafting convention.

To resolve the ambiguity, the Applicant amended the specification to clarify that the short, evenly spaced broken lines depicted stitching that formed part of the claimed design. This amendment confirmed that the stitching pattern was claimed and ensured the drawings provided clear notice of the intended scope. Rule 3.6, Rule 3.18

4.9 Stippling Without Stated Meaning

In Application 29/851,330, the Examiner objected to the drawings because stippling was shown without any explanation in the specification. The Examiner determined that the meaning of the stippling was unclear, leaving uncertainty as to whether it represented surface shading, texture, transparency, or a contrast in material.

The Applicant amended the specification to state that the stippling depicted a contrast in material and appearance. This clarification established the purpose of the stippling and ensured that the drawings conveyed a definite ornamental appearance. Rule 3.5, Rule 3.19

4.10 Improper Exploded-View Drafting

In Application 29/851,330, the Examiner objected to the exploded view because the drawing used lead lines to separate components in a manner that improperly suggested functional assembly or alternative configurations. The Examiner concluded that the exploded view as presented could imply mechanical relationships or construction details inconsistent with proper design patent drafting conventions.

In response, the Applicant amended the drawings by removing the lead lines and revising the exploded view using proper exploded-view drafting conventions. The Applicant also

amended the figure description to explicitly identify the figure as an exploded view, clarifying the nature and purpose of the disclosure. Rule 3.13, Rule 3.20

4.11 Improper Use of “Disclaimed” Terminology

In Application 35/521,976, the Examiner objected to the specification because it referred to certain portions of the design as being “disclaimed.” The Examiner determined that this terminology was improper in design patent practice and created ambiguity regarding whether the Applicant was attempting to disclaim subject matter through legal argument rather than by proper broken-line depiction.

To address the objection, the Applicant amended the specification to clarify that the ghosted or low-contrast portions illustrated elements that formed no part of the claimed design. This revision removed the improper “disclaimed” language and properly expressed the intended effect of the unclaimed features. Rule 3.21

4.12 Line Quality Supporting § 112 Rejections

In Application 29/915,188, the claim was rejected under 35 U.S.C. § 112(a) and § 112(b) because the line quality in the drawings was poor and obscured the contours and overall appearance of the design. The Examiner determined that the faint, unclear, or incomplete linework prevented the drawings from clearly conveying the ornamental design and rendered the claim indefinite and non-enabled.

In response, the Applicant submitted new formal drawing sheets with clear, uniform, and reproducible line quality. The replacement drawings corrected the visibility defects and provided sufficient detail to convey the overall appearance of the design with the clarity required for compliance with § 112. Rule 3.3, Rule 3.22

4.13 Solid-to-Broken Line Conversion Warning

In Application 29/884,899, the Examiner objected to the drawings and cautioned that converting solid lines to broken lines as a means of correcting unclear drawings may introduce new matter or improperly alter the originally disclosed design. The Examiner warned that such changes can implicate both the written description requirements of 35 U.S.C. § 112(a) and the new matter prohibition under 35 U.S.C. § 132.

To address the issue, the Applicant amended the drawings only to the extent supported by the original disclosure and ensured that any converted features were properly treated as unclaimed subject matter rather than newly introduced design content. The Applicant’s amendment emphasized that the revisions were made solely to remove non-enabled or unclear features and to clarify the claim scope without introducing any new ornamental matter. Rule 3.11, Rule 3.23

5. Practice and Enforcement Notes

Drawing defects that appear minor during prosecution may have disproportionate consequences in continuation practice, where the effective filing date of amended drawings can become critical. Practitioners should also be aware that international design filings may apply different formal requirements, even where the underlying design disclosure is similar.

Appendix 1 (Checklist)

Overall Disclosure

- Drawings clearly disclose the complete appearance of the design.
- Nothing about the design is left to conjecture.
- Visual disclosure alone enables understanding of the design.

Views

- Sufficient number of views provided for the design's dimensionality.
- All necessary sides shown, or omissions expressly explained.
- Perspective view (if included) matches orthographic views.
- Ensure all internal or underside features shown in solid lines are corroborated and enabled by at least one other view (e.g., a perspective or side view).

Consistency

- All views are internally consistent.
- No conflicting contours, edges, or features between views.

Quality

- Verify that all lines, including those representing fine details like mesh, are dark, uniform, and suitable for high-quality reproduction.

Surface Shading

- Shading used where needed to show contour and depth.
- Curved vs. flat surfaces are visually clear.
- No shading on unclaimed (broken-line) subject matter.
- Solid black shading used only for color black/contrast.
- If stippling is used, the specification states its purpose (e.g., contrast in material/appearance).

Broken Lines

- Broken lines show only visible environmental or unclaimed structure.
- Broken lines are used consistently across views.
- No broken lines depict hidden or internal features.
- All broken-line statements expressly identify what the broken lines depict and state that those portions form no part of the claimed design.

- Broken lines are clearly distinguishable from solid lines at reproduction scale across all figures.
- Broken-line dash length, spacing, and weight are consistent across all figures.

Alternate Positions

- No single view shows alternate positions or configurations.

Sectional Views

- Sectional views used only if necessary to clarify exterior contour.
- No internal construction or functional features shown.

Surface Treatment

- Ornamentation/texture shown consistently.
- No removal of three-dimensional surface treatment altering configuration.
- If stitching, seams, or similar surface features are shown, the specification clearly states whether those features form part of the claimed design.
- Surface features shown in broken lines do not create ambiguity as to whether the surface treatment is claimed.

Photographs / Color

- Photographs used only when the only practicable medium.
- Photographs and drawings not mixed.
- Required color statement included if color is shown.

Miscellaneous

- If zig-zag broken cut lines are used, the specification expressly explains their purpose (e.g., removal of portions for illustrative clarity).
- If exploded views are used, they employ proper exploded-view conventions and are expressly identified as exploded in the figure descriptions.
- No portion of the design is described as “disclaimed” or “unclaimed”; unclaimed portions are described as forming no part of the claimed design.

Replacement Drawings (if applicable)

- Replacement sheets include all prior figures from that sheet.
- Figures not labeled “amended.”
- Proper renumbering and sheet labeling completed.
- No appearance changes that could introduce new matter.

Risk Check

- No issues likely to trigger §112(a) enablement rejection.
- No issues likely to trigger §112(b) indefiniteness rejection.
- No amendment likely to raise §132 new matter concerns.

Appendix 2
(Questions and Answers)

Q1: Are the drawings really the entire claim in a design patent?

A: Yes. In a design patent, the drawings constitute the entire disclosure and define the scope of the claim. Anything not clearly shown is generally not claimed.

Q2: Can a single view ever be sufficient?

A: In limited circumstances, yes. A single planar view may be sufficient for a purely two-dimensional design where the complete appearance can be understood from that view alone. Three-dimensional designs generally require multiple views.

Q3: When is surface shading required?

A: Surface shading is required when necessary to clearly show the character and contour of three-dimensional surfaces. Lack of shading may render a design indefinite or non-enabled.

Q4: Can broken lines be used to show hidden features?

A: No. Broken lines may be used only to show visible environmental structure. They may not be used to depict hidden planes or internal features.

Q5: What happens if my views are inconsistent?

A: Minor inconsistencies result in a drawing objection. Major inconsistencies that obscure the overall appearance of the design result in a rejection for indefiniteness and lack of enablement.

Q6: Are sectional views ever allowed?

A: Only in limited circumstances where necessary to clarify the exterior contour of the design and not to show internal construction or function.

Q7: Can I mix photographs and drawings?

A: No. Photographs and drawings may not be combined as the visual disclosure in a single design application.

Q8: What is the risk of poor-quality drawings?

A: Poor-quality or unclear drawings can lead to objections, rejections under § 112, loss of effective filing date in continuations, and potential validity issues post-grant.

Q9: Do replacement drawings raise new matter concerns?

A: Yes. While replacement drawings are often required, they must strictly conform to the original disclosure. Any change affecting appearance may implicate new matter under 35 U.S.C. § 132.

Q10: What is the safest approach to avoiding drawing rejections?

A: File drawings that are complete, internally consistent, properly shaded, procedurally compliant, and that leave no aspect of the claimed design to conjecture.

Q11: Can a broken-line statement say the broken lines are “for illustrative purposes only”?

A: No. A broken-line statement must identify what the broken lines depict and state that those portions form no part of the claimed design.

Q12: Do broken lines need to be visually distinct from solid lines in every view?

A: Yes. Broken lines must be clearly distinguishable from solid lines at reproduction scale across all figures.

Q13: Do I need to explain zig-zag broken cut lines used in the drawings?

A: Yes. If zig-zag broken cut lines are used to remove portions of the design for illustrative clarity, the specification must expressly explain their purpose.

Q14: If stitching or seams are shown, do I need to state whether they are claimed?

A: Yes. When stitching, seams, or similar surface features are shown, the specification should clearly state whether those features form part of the claimed design.

Q15: Is stippling allowed without explanation?

A: No. When stippling is used, the specification should state what the stippling represents, such as a contrast in material or surface appearance.

Q16: Can exploded views use lead lines to pull parts apart?

A: No. Exploded views should use proper exploded-view conventions and be expressly identified as exploded in the figure descriptions.

Q17: Is it acceptable to describe parts of a design as “disclaimed” or “unclaimed”?

A: No. Portions not claimed should be described as forming no part of the claimed design, rather than using utility-style disclaimer terminology.

Q18: Can poor line quality lead to a rejection rather than a drawing objection?

A: Yes. Where poor line quality prevents understanding of the design's appearance, examiners may issue rejections under 35 U.S.C. §112(a) and §112(b).

Q19: Does converting solid lines to broken lines raise new-matter concerns?

A: It can. Converting solid lines to broken lines (or vice versa) must be supported by the original disclosure and may raise written description or new-matter issues.

Q20: Can I show both color and three-dimensional form in the same drawing?

A: Yes, but lining an entire surface for color may interfere with surface shading needed to show contours. Consider partially lining the surface with a description that color extends across it, or provide a separate view for clarity. *See* MPEP §1503.02 and Form ¶15.05.041.

Appendix 3 (Limitations)

This ProGuide addresses drawing requirements as they arise during U.S. design patent prosecution, with particular emphasis on compliance with 35 U.S.C. § 112, 35 U.S.C. § 132, and the USPTO's drawing regulations and examination practice. The guidance and examples herein are subject to the following limitations.

First, this ProGuide does not substitute for the statutory or regulatory requirements governing design patent drawings. Ultimate determinations regarding sufficiency, enablement, indefiniteness, or new matter are made by the Examiner based on the specific facts of each application, the drawings as filed, and the totality of the prosecution record. This ProGuide does not review drawings or figures and cannot provide comments on the sufficiency of drawings or figures.

Second, examiner practice regarding drawings may vary depending on the art unit, the nature of the article, and the complexity of the design. Certain drawing defects may result in a drawing objection in one case and a § 112 rejection in another, depending on whether the defect merely affects formal compliance or rises to the level of obscuring the claimed design's overall appearance.

Third, this ProGuide focuses on visual disclosure sufficiency, not on aesthetic drafting preferences or stylistic conventions. The absence of a rejection or objection during prosecution does not guarantee that drawings are immune from later challenges regarding indefiniteness, enablement, or claim scope during enforcement or post-grant proceedings.

Fourth, the discussion of replacement drawings is limited to procedural compliance and new-matter risk during prosecution. Whether an amended or corrected drawing alters claim scope for purposes of infringement, validity, or priority is a fact-intensive inquiry that depends on claim construction and the governing case law at the time of litigation.

Fifth, the examples included in this ProGuide are drawn from specific prosecution histories and illustrate common examiner reasoning, not exhaustive or exclusive rules. Similar drawing issues may be resolved differently where additional views, shading, or contextual disclosure materially alter the analysis.

Finally, this ProGuide does not address all possible drawing-related issues that may arise in international design applications, continuation practice involving priority disputes, or post-grant challenges. Practitioners should evaluate drawing compliance in light of the intended filing strategy, enforcement goals, and risk tolerance for each application.

Appendix 4
(Selected MPEP, CFR, and Statutory References)

1503.02 Drawing [R-01.2024]

37 CFR 1.152 Design drawings.

The design must be represented by a drawing that complies with the requirements of § 1.84 and must contain a sufficient number of views to constitute a complete disclosure of the appearance of the design. Appropriate and adequate surface shading should be used to show the character or contour of the surfaces represented. Solid black surface shading is not permitted except when used to represent the color black as well as color contrast. Broken lines may be used to show visible environmental structure, but may not be used to show hidden planes and surfaces that cannot be seen through opaque materials. Alternate positions of a design component, illustrated by full and broken lines in the same view are not permitted in a design drawing. Photographs and ink drawings are not permitted to be combined as formal drawings in one application. Photographs submitted in lieu of ink drawings in design patent applications must not disclose environmental structure but must be limited to the design claimed for the article.

Every design patent application must include either a drawing or a photograph of the claimed design. As the drawing or photograph constitutes the entire visual disclosure of the claim, it is of utmost importance that the drawing or photograph be clear and complete, and that nothing regarding the design sought to be patented is left to conjecture.

When inconsistencies are found among the views, the examiner should object to the drawings and request that the views be made consistent. *Ex parte Asano*, 201 USPQ 315, 317 (Bd. Pat. App. & Inter. 1978); *Hadco Products, Inc. v. Lighting Corp. of America Inc.*, 312 F. Supp. 1173, 1182, 165 USPQ 496, 503 (E.D. Pa. 1970), *vacated on other grounds*, 462 F.2d 1265, 174 USPQ 358 (3d Cir. 1972). When the inconsistencies are of such magnitude that the overall appearance of the design is unclear, the claim should be rejected under 35 U.S.C. 112(a) and (b), (or for applications filed prior to September 16, 2012, pre-AIA 35 U.S.C. 112, first and second paragraphs), as nonenabling and indefinite. See MPEP § 1504.04, subsection I.A.

¶ 15.05.04 Replacement Drawing Sheets Required

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as amended. If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. If all the figures on a drawing sheet are canceled, a replacement sheet is not required. A marked-up copy of the drawing sheet (labeled as “Annotated Sheet”) including an annotation showing that all the figures on that drawing sheet

have been canceled must be presented in the amendment or remarks section that explains the change to the drawings. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

¶ 15.48 Necessity for Good Drawings

The necessity for good drawings in a design patent application cannot be overemphasized. As the drawing constitutes the whole disclosure of the design, it is of utmost importance that it be so well executed both as to clarity of showing and completeness, that nothing regarding the design sought to be patented is left to conjecture. An insufficient drawing may be fatal to validity (35 U.S.C. 112(a) or pre-AIA 35 U.S.C. 112, first paragraph). Moreover, an insufficient drawing may have a negative effect with respect to the effective filing date of the claimed invention in a continuing application.

In addition to the criteria set forth in 37 CFR 1.81-1.88, design drawings must also comply with 37 CFR 1.152 as follows:

I. VIEWS

The drawings or photographs should contain a sufficient number of views to disclose the complete appearance of the design claimed, which may include the front, rear, top, bottom and sides. Where three-dimensional aspects of a design are not claimed, a single plan- or planar-view may be sufficient to adequately disclose the claimed design. For example, in *In re Maatita*, 900 F.3d 1369, 1378-1379, 127 USPQ2d 1640 (Fed. Cir. 2018), the Federal Circuit held that a claim to an ornamental design for a shoe bottom satisfied the enablement and definiteness requirements of 35 U.S.C. 112, where the scope of the claimed design was capable of being understood from a single, two-dimensional, plan-view. The Federal Circuit distinguished the design for a rug or a placemat, which "is capable of being viewed and understood in two-dimensions through a plan- or planar-view illustration," from the design for an entire shoe or teapot, which is "inherently three-dimensional and could not be adequately disclosed with a single, plan- or planar-view drawing." *Maatita*, 900 F.3d at 1378. See also MPEP § 1504.04, subsection I.

Perspective views are suggested and may be submitted to clearly show the appearance of three dimensional designs. If a perspective view is submitted, the surfaces shown would normally not be required to be illustrated in other views if these surfaces are clearly understood and fully disclosed in the perspective.

Views that are merely duplicative of other views of the design or that are flat and include no surface ornamentation may be omitted from the drawing if the specification makes this explicitly clear. See MPEP § 1503.01, subsection II. For example, if the left and right sides of a design are identical or a mirror image, a view should be provided of one side and a statement made in the drawing description that the other side is identical or a mirror image. If the design has a flat bottom, a view of the bottom may be omitted if the specification includes a statement that the bottom is flat and devoid of surface ornamentation. The term "unornamented" should not be used

to describe visible surfaces which include structure that is clearly not flat. *Philco Corp. v. Admiral Corp.*, 199 F. Supp. 797, 131 USPQ 413 (D. Del. 1961).

Sectional views presented solely for the purpose of showing the internal construction or functional/ mechanical features are unnecessary and may lead to confusion as to the scope of the claimed design. The examiner should object to such views and require their cancellation. *Ex parte Tucker*, 1901 C.D. 140, 97 O.G. 187 (Comm'r Pat. 1901); *Ex parte Kohler*, 1905 C.D. 192, 116 O.G. 1185 (Comm'r Pat. 1905). However, where the exact contour or configuration of the exterior surface of a claimed design is not apparent from the views of the drawing, and no attempt is made to illustrate features of internal construction, a sectional view may be included to clarify the shape of said design. *Ex parte Lohman*, 1912 C.D. 336, 184 O.G. 287 (Comm'r Pat. 1912). When a sectional view is added during prosecution, the examiner must determine whether there is antecedent basis in the original disclosure for the material shown in hatching in the sectional view 37 CFR 1.84(h)(3) and MPEP § 608.02.

II. SURFACE SHADING

While surface shading is not required under 37 CFR 1.152, it may be necessary in particular cases to shade the figures to show clearly the character and contour of all surfaces of any 3-dimensional aspects of the design. Surface shading is also necessary to distinguish between any open and solid areas of the article. However, surface shading should not be used on unclaimed subject matter, shown in broken lines, to avoid confusion as to the scope of the claim.

Lack of appropriate surface shading in the drawing as filed may render the design nonenabling and indefinite under 35 U.S.C. 112(a) and (b), (or for applications filed prior to September 16, 2012, pre-AIA 35 U.S.C. 112, first and second paragraphs). Additionally, if the surface shape is not evident from the disclosure as filed, the addition of surface shading after filing may comprise new matter. Solid black surface shading is not permitted except when used to represent the color black as well as color contrast. Oblique line shading must be used to show transparent, translucent and highly polished or reflective surfaces, such as a mirror. Contrast in materials may be shown by using line shading in one area and stippling in another. By using this technique, the claim will broadly cover contrasting surfaces unlimited by colors. The claim would not be limited to specific material either, as long as the appearance of the material does not patentably depart from the visual appearance illustrated in the drawing.

IV. SURFACE TREATMENT

The ornamental appearance of a design for an article includes its shape and configuration as well as any indicia, contrasting color or materials, graphic representations, or other ornamentation applied to the article ("surface treatment"). Surface treatment must be applied to or embodied in an article of manufacture. Surface treatment, *per se* (i.e., not applied to or embodied in a specific article of manufacture), is not proper subject matter for a design patent under 35 U.S.C. 171. Surface treatment may either be disclosed with the article to which it is applied or in which it is embodied and must be shown in full lines or in broken lines (if unclaimed) to meet the statutory requirement. See MPEP § 1504.01. The guidelines that apply for disclosing computer-generated icons apply equally to all types of surface treatment. See MPEP § 1504.01(a).

A disclosure of surface treatment in a design drawing or photograph will normally be considered as *prima facie* evidence that the inventor considered the surface treatment shown as an integral part of the claimed design. An amendment canceling two-dimensional surface treatment or reducing it to broken lines will be permitted if it is clear from the application that applicant had possession of the underlying configuration of the basic design without the surface treatment at the time of filing of the application. See *In re Daniels*, 144 F.3d 1452, 1456-57, 46 USPQ2d 1788, 1790 (Fed. Cir. 1998). Applicant may remove surface treatment shown in a drawing or photograph of a design without such removal being treated as new matter, provided that the surface treatment does not obscure or override the underlying design. The removal of three-dimensional surface treatment that is an integral part of the configuration of the claimed design, for example, removal of beading, grooves, and ribs, will introduce new matter as the underlying configuration revealed by this amendment would not be apparent in the application as originally filed. See MPEP § 1504.04, subsection I.B.

V. PHOTOGRAPHS AND COLOR DRAWINGS

Drawings in design applications may be submitted in black and white or in color. See 37 CFR 1.84(a). Photographs, including photocopies of photographs, are not ordinarily permitted in utility and design patent applications. However, the Office will accept photographs in utility and design patent applications if photographs are the only practicable medium for illustrating the claimed invention. See 37 CFR 1.84(b). See also 37 CFR 1.81(c) and 37 CFR 1.83(c), and MPEP § 608.02.

Where color drawings and color photographs are submitted, only one set of color drawings or color photographs are required if submitted via the USPTO patent electronic filing system. Three sets of color drawings or color photographs are required if not submitted via the USPTO patent electronic filing system. See 37 CFR 1.84(a)(2)(ii). In addition the specification must contain, or be amended to contain, the following language as the first paragraph of the brief description of the drawings: --The file of this patent contains at least one drawing/photograph executed in color. Copies of this patent with color drawing(s)/photograph(s) will be provided by the Office upon request and payment of the necessary fee.-- See 37 CFR 1.84(a)(2)(iii) and MPEP § 608.02.

If the photographs are not of sufficient quality so that all details in the photographs are reproducible, this will form the basis of subsequent objection to the quality of the photographic disclosure. No application will be issued until objections directed to the quality of the photographic disclosure have been resolved and acceptable photographs have been submitted and approved by the examiner. If the details, appearance and shape of all the features and portions of the design are not clearly disclosed in the photographs, this would form the basis of a rejection of the claim under 35 U.S.C. 112(a) and (b), (or for applications filed prior to September 16, 2012, 35 U.S.C. 112, first and second paragraphs), as nonenabling and indefinite. Photographs and drawings must not be combined in a submission of the visual disclosure of the claimed design in one application. The introduction of both photographs and drawings in a design application would result in a high probability of inconsistencies between corresponding elements on the drawings as compared with the photographs.

When filing photographs or drawings with the original application, a disclaimer included in the specification or on the photographs themselves may be used to disclaim any surface ornamentation, logos, written matter, etc. which form no part of the claimed design. See also MPEP § 1503.01, subsection II.

Color drawings are permitted in design applications when filed in accordance with the requirements of 37 CFR 1.84(a)(2). As an alternative to color drawings, surfaces of the design may be lined in accordance with the graphic symbols discussed in MPEP § 608.02, subsection IX, to represent color in black and white line drawings (37 CFR 1.84(a)(1)). See 37 CFR 1.84(n). If the drawing in an application is lined for color, the following statement should be inserted in the specification for clarity and to avoid possible confusion that the lining may be surface treatment --The drawing is lined for color.-- However, lining entire surfaces of a design to show color(s) may interfere with a clear showing of the design as required by 35 U.S.C. 112(a) (or for applications filed prior to September 16, 2012, pre-AIA 35 U.S.C. 112, first paragraph), as surface shading cannot be used simultaneously to define the contours of those surfaces.

If color photographs or color drawings are filed with the original application, color will be considered an integral part of the disclosed and claimed design. The omission of color in later filed photographs or drawings will be permitted if it is clear from the application that applicant had possession of the underlying configuration of the basic design without the color at the time of filing of the application. See *In re Daniels*, 144 F.3d 1452, 1456-57, 46 USPQ2d 1788, 1790 (Fed. Cir. 1998) and MPEP § 1503.01, subsection II. Note also 37 CFR 1.152, which requires that photographs submitted in lieu of ink drawings in design patent applications must not disclose environmental structure but must be limited to the design claimed for the article. Form paragraph 15.05.041 may be used when color drawing(s) or photograph(s) have been submitted.

¶ 15.05.041 Color Drawing(s)/Photograph(s) Submitted

Color photographs or drawings have been submitted in this application. If replacement drawings are submitted, any showing of color in a black and white drawing is limited to the symbols used to line a surface to show color (MPEP § 608.02) and must comply with the written description requirements of 35 U.S.C. 112. Additionally, lining entire surfaces of a design to show color(s) may interfere with a clear showing of the design as required by 35 U.S.C. 112 because surface shading cannot be used simultaneously to define the contours of those surfaces. However, a surface may be partially lined for color with a description that the color extends across the entire surface; this technique would allow for the use of shading on the rest of the surface showing the contours of the design (37 CFR 1.152). In the alternative, a separate view, properly shaded to show the contours of the design but omitting the color(s), may be submitted if identified as shown only for clarity of illustration. Photographs and ink drawings are not permitted to be combined as drawings in one application.

In any drawing lined for color, the following descriptive statement must be inserted in the specification (the specific colors may be identified for clarity):

--The drawing is lined for color.--

However, some designs disclosed in color photographs/drawings cannot be depicted in black and white drawings lined for color. For example, a design may include multiple shades of a single color which cannot be accurately represented by the single symbol for a specific color. Or, the color may be a shade other than a true primary or secondary color as represented by the drafting symbols and lining the drawing with one of the drafting symbols would not be an exact representation of the design as originally disclosed.

Examiner Note:

Use this form paragraph when color drawing(s) or photograph(s) have been submitted in an application.

Form paragraph 15.61.01 may be used, where appropriate, to notify applicant regarding amending the specification to add a reference to color drawings or photographs.

¶ 15.61.01 Amend Specification to Add Reference to Color Drawing(s)/ Photograph(s) (Ch. 16 Design Application)

The application contains at least one color drawing or color photograph. To comply with the provisions of 37 CFR 1.84 for color drawings/photographs in design applications, the specification [1] amended to include the following language as the first paragraph of the brief description of the drawings section:

The file of this patent contains at least one drawing/photograph executed in color. Copies of this patent with color drawing(s)/photograph(s) will be provided by the Office upon request and payment of the necessary fee.

Examiner Note:

- 1. Do not use this form paragraph in an international design application.
- 2. In bracket 1, insert --must be-- or --has been--