

International Harmonization of Substantive Patent Law - What does it mean for patent drawings?

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Among others, the United States Patent & Trademark Office (USPTO) is moving towards harmonizing patent standards. Many rules for patent drawings have already been revised to correspond with those of the European Patent Office (EPO) and the World Intellectual Property Organization (WIPO).

The rule change to make computer generated drawings permissible, provided they are executed in a manner that permits clear reproduction and copying, we feel makes perfect sense.

Another logical rule change in the 90's was "to permit color drawings and photographs in lieu of ink drawings to illustrate inventions which cannot be accurately or adequately depicted by ink drawings."¹ The Patent Cooperation Treaty (PCT) accepts photographs for the same reason, however "Color photographs are not accepted, nor are color drawings"², even though many of those same inventions cannot be accurately or adequately depicted without color.

While the USPTO has shifted in the direction of harmonization, a number of differences remain between USPTO drawings rules and those of other major patent centers.

PCT and EPO drawings must be filed on A4 size (29.7cm x 21cm) while the USPTO drawings can be filed on A4 or letter size (8 ½ by 11 inch)

For PCT applications "The Latin alphabet should normally be used for letters"³, the USPTO's view is that the English alphabet is more universally accepted for letters. Both USPTO and PCT accept the Greek alphabet to indicate angles, wavelengths and mathematical formulas.

The USPTO allows broken lines to be used in design patent drawings to indicate environment or unclaimed areas. This allowance is not accommodated in PCT or EPO applications. According to the USPTO, "The two most common uses of broken lines are to disclose the environment related to the claimed design and to define the bounds of the claim. Structure that is not part of the claimed design, but is considered necessary to show the environment in which the design is associated, may be represented in the drawing by broken lines. This includes any portion of an article in which the design is embodied or applied to that is not considered part of the claimed design."⁴

The USPTO's rule for shading has been changed from a requirement to "encouraged if it aids in understanding the invention"⁵

It emphasizes the importance of shading in the following paragraph from the Manual of Patent Examining Procedure (MPEP) titled *¶ 15.49 Surface Shading Necessary*:

"The drawing figures should be appropriately and adequately shaded to show clearly the character and/or contour of all surfaces represented. See 37 CFR 1.152. This is of particular importance in the showing of three (3) dimensional articles where it is necessary to delineate plane, concave, convex, raised, and/or depressed surfaces of the subject matter, and to distinguish between open and closed areas". Furthermore "Lack of appropriate surface shading in the drawing as filed may render the design nonenabling and indefinite under 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"⁶

Shading aids in the understanding of tangential lines. This is a line, curve or surface that touches another curve or surface but does not cross or intersect it.

Visually tangential edges are where two surfaces flow into each other. To put it another way, it's when the surface of an object changes its character. Visually they do not appear to have definite edges. In line drawings they are a part of surface shading.

Without showing tangential edges it may be very difficult to understand the shape of an item.

Bold lines are a part of surface shading and emphasize openings, indentations, raised areas and the shadow side of an outline of an object.

Without shading how could you tell if a surface is raised or indented?

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In China, Japan, Korea, India, Russia, Brazil, and many other South American countries, shading is not permitted.

We feel that the rule for shading should not have been changed. Shading helps examiners understand the shape of an article, enabling them to process applications more efficiently. If drawings are submitted without shading, examiners may have to send drawings back to have shading applied. This will increase delays during the printing cycle (during which time the Office waits for corrected drawings to be filed) and so increase time and cost of an application. Even more troubling, if shading is added, the drawings could be rejected for adding new matter.

USPTO rules and regulations for patent drawings are at times confusing, and in some instances vague, however they still have the most comprehensive set of rules in the world. Many patent offices have limited or no source for their rules.

One of the areas in which the USPTO could improve is in its digital output of patent drawings. In general, high quality drawings are submitted to the USPTO, where they are scanned at 300dpi, reducing them to low resolution poor quality images. This often causes lines to fuse and images to become blurred. Downloads of patents containing drawings from the USPTO website display low resolution bitmap images which are unclear and in many instances illegible. The technology to improve this area is available and common.

CONCLUSION

In its quest to harmonize standards with those of the rest of the world, we hope the USPTO will maintain its high standards for patent drawings.

ENDNOTES

1. Guide for the preparation of patent drawings, Appendix 2 History of recent changes § (b) Photographs.
2. PCT Applicant's Guide – International Phase, Rule 10.1 (d) and (e) 5.159 § May a photograph be presented instead of a drawing
3. PCT Applicant's Guide – International Phase, Rule 11.13(e) 5.152 and. 11.13(h) 5.153 § How should numbers, letters, reference signs and like indications be presented and applied to drawings?
4. Manual of Patent Examining Procedure, Chapter 1500, Design Patents, 1503.02 §111. Broken Lines
5. Manual of Patent Examining Procedure, Chapter 600 Parts, Form, and Content of Application § (m) Shading
6. Manual of Patent Examining Procedure, Chapter 1500, Design Patents, 1503.2 §15.49. Surface Shading necessary