

Extracts from

Appendix R Patent Rules

Title 37 - Code of Federal Regulations
Patents, Trademarks, and Copyrights

(1) A correction to comply with paragraph (b)(1) of this section is permitted only if the application as filed clearly conveys an intent to incorporate the material by reference. A mere reference to material does not convey an intent to incorporate the material by reference.

(2) A correction to comply with paragraph (b)(2) of this section is only permitted for material that was sufficiently described to uniquely identify the document.

[Added, 69 FR 56481, Sept. 21, 2004, effective Oct. 21, 2004; para. (a)(3) added, 69 FR 56481, Sept. 21, 2004, effective Nov. 22, 2004; para. (a)(2) revised, 72 FR 51559, Sept. 10, 2007, effective Sept. 10, 2007]

§ 1.58 Chemical and mathematical formulae and tables.

(a) The specification, including the claims, may contain chemical and mathematical formulae, but shall not contain drawings or flow diagrams. The description portion of the specification may contain tables, but the same tables may only be included in both the drawings and description portion of the specification if the application was filed under 35 U.S.C. 371. Claims may contain tables either if necessary to conform to 35 U.S.C. 112 or if otherwise found to be desirable.

(b) Tables that are submitted in electronic form (§§ 1.96(c) and 1.821(c)) must maintain the spatial relationships (*e.g.*, alignment of columns and rows) of the table elements when displayed so as to visually preserve the relational information they convey. Chemical and mathematical formulae must be encoded to maintain the proper positioning of their characters when displayed in order to preserve their intended meaning.

(c) Chemical and mathematical formulae and tables must be presented in compliance with § 1.52(a) and (b), except that chemical and mathematical formulae or tables may be placed in a landscape orientation if they cannot be presented satisfactorily in a portrait orientation. Typewritten characters used in such formulae and tables must be chosen from a block (nonscript) type font or lettering style having capital letters which should be at least 0.422 cm. (0.166 inch) high (*e.g.*, preferably Arial, Times Roman, or Courier with a font size of 12), but may be no smaller than

0.21 cm. (0.08 inch) high (*e.g.*, a font size of 6). A space at least 0.64 cm. (1/4 inch) high should be provided between complex formulae and tables and the text. Tables should have the lines and columns of data closely spaced to conserve space, consistent with a high degree of legibility.

[43 FR 20463, May 11, 1978; para. (b) removed and reserved, para. (c) amended, 61 FR 42790, Aug. 19, 1996, effective Sept. 23, 1996; para. (b) added, 65 FR 54604, Sept. 8, 2000, effective Nov. 7, 2000; revised, 69 FR 56481, Sept. 21, 2004, effective Oct. 21, 2004]

§ 1.59 Expungement of information or copy of papers in application file.

(a)(1) Information in an application will not be expunged, except as provided in paragraph (b) of this section or § 41.7(a) of this title.

(2) Information forming part of the original disclosure (*i.e.*, written specification including the claims, drawings, and any preliminary amendment specifically incorporated into an executed oath or declaration under §§ 1.63 and 1.175) will not be expunged from the application file.

(b) An applicant may request that the Office expunge information, other than what is excluded by paragraph (a)(2) of this section, by filing a petition under this paragraph. Any petition to expunge information from an application must include the fee set forth in § 1.17(g) and establish to the satisfaction of the Director that the expungement of the information is appropriate in which case a notice granting the petition for expungement will be provided.

(c) Upon request by an applicant and payment of the fee specified in § 1.19(b), the Office will furnish copies of an application, unless the application has been disposed of (*see* §§ 1.53(e), (f) and (g)). The Office cannot provide or certify copies of an application that has been disposed of.

[48 FR 2710, Jan. 20, 1983, effective Feb. 27, 1983; 49 FR 554, Jan. 4, 1984, effective Apr. 1, 1984; 49 FR 48416, Dec. 12, 1984, effective Feb. 11, 1985; 50 FR 23123, May 31, 1985, effective Feb. 11, 1985; revised, 60 FR 20195, Apr. 25, 1995, effective June 8, 1995; revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997; para. (b) revised, 65 FR 54604, Sept. 8, 2000, effective Nov. 7, 2000; para. (b) revised, 68 FR 14332, Mar. 25, 2003, effective May 1, 2003; revised, 68 FR 38611, June 30, 2003, effective July 30, 2003; para. (a)(1) revised, 69 FR 49959,

(ii) Within three months of the date of entry of the national stage as set forth in § 1.491 in an international application;

(iii) Before the mailing of a first Office action on the merits; or

(iv) Before the mailing of a first Office action after the filing of a request for continued examination under § 1.114.

(3) If an amendment under paragraph (g)(1) of this section is filed after the date the issue fee is paid, the patent as issued may not necessarily include the names of the parties to the joint research agreement. If the patent as issued does not include the names of the parties to the joint research agreement, the patent must be corrected to include the names of the parties to the joint research agreement by a certificate of correction under 35 U.S.C. 255 and § 1.323 for the amendment to be effective.

[paras. (d) and (e), 53 FR 47808, Nov. 28, 1988, effective Jan. 1, 1989; para. (d), 58 FR 38719, July 20, 1993, effective Oct. 1, 1993; para. (f) added, 68 FR 38611, June 30, 2003, effective July 30, 2003; para. (g) added, 70 FR 1818, Jan. 11, 2005, effective Dec. 10, 2004; para. (g) revised, 70 FR 54259, Sept. 14, 2005, effective Sept. 14, 2005]

§ 1.72 Title and abstract.

(a) The title of the invention may not exceed 500 characters in length and must be as short and specific as possible. Characters that cannot be captured and recorded in the Office's automated information systems may not be reflected in the Office's records in such systems or in documents created by the Office. Unless the title is supplied in an application data sheet (§ 1.76), the title of the invention should appear as a heading on the first page of the specification.

(b) A brief abstract of the technical disclosure in the specification must commence on a separate sheet, preferably following the claims, under the heading "Abstract" or "Abstract of the Disclosure." The sheet or sheets presenting the abstract may not include other parts of the application or other material. The abstract in an application filed under 35 U.S.C. 111 may not exceed 150 words in length. The purpose of the abstract is to enable the United States Patent and Trademark Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure.

[31 FR 12922, Oct. 4, 1966; 43 FR 20464, May 11, 1978; para. (b) amended, 61 FR 42790, Aug. 19, 1996, effective Sept. 23, 1996; revised, 65 FR 54604, Sept. 8, 2000, effective Nov. 7, 2000; para. (a) revised, 65 FR 57024, Sept. 20, 2000, effective Nov. 29, 2000; para. (b) revised, 68 FR 38611, June 30, 2003, effective July 30, 2003]

§ 1.73 Summary of the invention.

A brief summary of the invention indicating its nature and substance, which may include a statement of the object of the invention, should precede the detailed description. Such summary should, when set forth, be commensurate with the invention as claimed and any object recited should be that of the invention as claimed.

§ 1.74 Reference to drawings.

When there are drawings, there shall be a brief description of the several views of the drawings and the detailed description of the invention shall refer to the different views by specifying the numbers of the figures and to the different parts by use of reference letters or numerals (preferably the latter).

§ 1.75 Claim(s).

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

(b) More than one claim may be presented provided they differ substantially from each other and are not unduly multiplied.

(c) One or more claims may be presented in dependent form, referring back to and further limiting another claim or claims in the same application. Any dependent claim which refers to more than one other claim ("multiple dependent claim") shall refer to such other claims in the alternative only. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. For fee calculation purposes under § 1.16, a multiple dependent claim will be considered to be that number of claims to which direct reference is made therein. For fee calculation purposes also, any claim depending from a multiple dependent claim will be considered to be that number of claims to which direct reference is made in that multiple dependent claim. In addition to the other fil-

assignment to the same person at the time the later invention was made, and if not, indicate which named inventor is the prior inventor. Even if the claimed inventions were commonly owned, or subject to an obligation of assignment to the same person, at the time the later invention was made, the conflicting claims may be rejected under the doctrine of double patenting in view of such commonly owned or assigned applications or patents under reexamination.

[36 FR 7312, Apr. 17, 1971; 49 FR 555, Jan. 4, 1984; paras. (a), (c) & (d), 50 FR 9380, Mar. 7, 1985, effective May 8, 1985; 50 FR 11366, Mar. 21, 1985; para. (a) revised 58 FR 54504, Oct. 22, 1993, effective Jan. 3, 1994; paras. (a)(1) and (a)(2) revised and paras. (a)(3) and (a)(4) added, 60 FR 20195, Apr. 25, 1995, effective June 8, 1995; para. (c) revised and para. (d) deleted, 61 FR 42790, Aug. 19, 1996, effective Sept. 23, 1996; para. (a) revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997; para. (a)(3) revised, 65 FR 14865, Mar. 20, 2000, effective May 29, 2000 (adopted as final, 65 FR 50092, Aug. 16, 2000); paras. (a)(2), (a)(4), and (c) revised, 65 FR 54604, Sept. 8, 2000, effective Sept. 8, 2000; paras. (a)(2), (a)(3), and (a)(4) revised and paras. (a)(5) and (a)(6) added, 65 FR 57024, Sept. 20, 2000, effective Nov. 29, 2000; para. (a) revised, 66 FR 67087, Dec. 28, 2001, effective Dec. 28, 2001; paras. (a)(3)(iii) & (a)(6)(iii) revised, 68 FR 14332, Mar. 25, 2003, effective May 1, 2003; para. (a)(3) revised, 68 FR 70996, Dec. 22, 2003, effective Jan. 21, 2004; paras. (a)(1), (a)(2)(iii), (a)(5)(iii) and (c) revised, 69 FR 56481, Sept. 21, 2004, effective Sept. 21, 2004; para. (a)(4) revised, 70 FR 3880, Jan. 27, 2005, effective Dec. 8, 2004; para.(a)(1)(iii) removed and para. (a)(1)(ii) revised, 70 FR 30360, May 26, 2005, effective July 1, 2005; para. (a)(5)(iv) revised, 70 FR 56119, Sept. 26, 2005, effective Nov. 25, 2005; revised, 72 FR 46716, Aug. 21, 2007 (implementation enjoined and never became effective); revised, 74 FR 52686, Oct. 14, 2009, effective Oct. 14, 2009 (to remove changes made by the final rules in 72 FR 46716 from the CFR)]

§ 1.79 Reservation clauses not permitted.

A reservation for a future application of subject matter disclosed but not claimed in a pending application will not be permitted in the pending application, but an application disclosing unclaimed subject matter may contain a reference to a later filed application of the same applicant or owned by a common assignee disclosing and claiming that subject matter.

THE DRAWINGS

§ 1.81 Drawings required in patent application.

(a) The applicant for a patent is required to furnish a drawing of his or her invention where necessary for the understanding of the subject matter sought to be patented; this drawing, or a high quality copy thereof, must be filed with the application. Since corrections are the responsibility of the applicant, the original drawing(s) should be retained by the applicant for any necessary future correction.

(b) Drawings may include illustrations which facilitate an understanding of the invention (for example, flowsheets in cases of processes, and diagrammatic views).

(c) Whenever the nature of the subject matter sought to be patented admits of illustration by a drawing without its being necessary for the understanding of the subject matter and the applicant has not furnished such a drawing, the examiner will require its submission within a time period of not less than two months from the date of the sending of a notice thereof.

(d) Drawings submitted after the filing date of the application may not be used to overcome any insufficiency of the specification due to lack of an enabling disclosure or otherwise inadequate disclosure therein, or to supplement the original disclosure thereof for the purpose of interpretation of the scope of any claim.

[43 FR 4015, Jan. 31, 1978; para. (a), 53 FR 47809, Nov. 28, 1988, effective Jan. 1, 1989]

§ 1.83 Content of drawing.

(a) The drawing in a nonprovisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (*e.g.*, a labeled rectangular box). In addition, tables and sequence listings that are included in the specification are, except for applications filed under 35 U.S.C. 371, not permitted to be included in the drawings.

(b) When the invention consists of an improvement on an old machine the drawing must when pos-

sible exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

(c) Where the drawings in a nonprovisional application do not comply with the requirements of paragraphs (a) and (b) of this section, the examiner shall require such additional illustration within a time period of not less than two months from the date of the sending of a notice thereof. Such corrections are subject to the requirements of § 1.81(d).

[31 FR 12923, Oct. 4, 1966; 43 FR 4015, Jan. 31, 1978; paras. (a) and (c) revised, 60 FR 20195, Apr. 25, 1995, effective June 8, 1995; para. (a) revised, 69 FR 56481, Sept. 21, 2004, effective Oct. 21, 2004]

§ 1.84 Standards for drawings.

(a) *Drawings.* There are two acceptable categories for presenting drawings in utility and design patent applications.

(1) *Black ink.* Black and white drawings are normally required. India ink, or its equivalent that secures solid black lines, must be used for drawings; or

(2) *Color.* On rare occasions, color drawings may be necessary as the only practical medium by which to disclose the subject matter sought to be patented in a utility or design patent application or the subject matter of a statutory invention registration. The color drawings must be of sufficient quality such that all details in the drawings are reproducible in black and white in the printed patent. Color drawings are not permitted in international applications (see PCT Rule 11.13), or in an application, or copy thereof, submitted under the Office electronic filing system. The Office will accept color drawings in utility or design patent applications and statutory invention registrations only after granting a petition filed under this paragraph explaining why the color drawings are necessary. Any such petition must include the following:

- (i) The fee set forth in § 1.17(h);
- (ii) Three (3) sets of color drawings;
- (iii) An amendment to the specification to insert (unless the specification contains or has been previously amended to contain) the following

language as the first paragraph of the brief description of the drawings:

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

(b) *Photographs.*—

(1) *Black and white.* Photographs, including photocopies of photographs, are not ordinarily permitted in utility and design patent applications. The Office will accept photographs in utility and design patent applications, however, if photographs are the only practicable medium for illustrating the claimed invention. For example, photographs or photomicrographs of: electrophoresis gels, blots (e.g., immunological, western, Southern, and northern), autoradiographs, cell cultures (stained and unstained), histological tissue cross sections (stained and unstained), animals, plants, in vivo imaging, thin layer chromatography plates, crystalline structures, and, in a design patent application, ornamental effects, are acceptable. If the subject matter of the application admits of illustration by a drawing, the examiner may require a drawing in place of the photograph. The photographs must be of sufficient quality so that all details in the photographs are reproducible in the printed patent.

(2) *Color photographs.* Color photographs will be accepted in utility and design patent applications if the conditions for accepting color drawings and black and white photographs have been satisfied. See paragraphs (a)(2) and (b)(1) of this section.

(c) *Identification of drawings.* Identifying indicia should be provided, and if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet within the top margin. Each drawing sheet submitted after the filing date of an application must be identified as either "Replacement Sheet" or "New Sheet" pursuant to § 1.121(d). If a marked-up copy of any amended drawing figure including annotations indicating the changes made is filed, such marked-up copy must be clearly labeled as "Annotated Sheet" pursuant to § 1.121(d)(1).

(d) *Graphic forms in drawings.* Chemical or mathematical formulae, tables, and waveforms may be submitted as drawings and are subject to the same requirements as drawings. Each chemical or mathematical formula must be labeled as a separate figure, using brackets when necessary, to show that information is properly integrated. Each group of waveforms must be presented as a single figure, using a common vertical axis with time extending along the horizontal axis. Each individual waveform discussed in the specification must be identified with a separate letter designation adjacent to the vertical axis.

(e) *Type of paper.* Drawings submitted to the Office must be made on paper which is flexible, strong, white, smooth, non-shiny, and durable. All sheets must be reasonably free from cracks, creases, and folds. Only one side of the sheet may be used for the drawing. Each sheet must be reasonably free from erasures and must be free from alterations, overwritings, and interlineations. Photographs must be developed on paper meeting the sheet-size requirements of paragraph (f) of this section and the margin requirements of paragraph (g) of this section. See paragraph (b) of this section for other requirements for photographs.

(f) *Size of paper.* All drawing sheets in an application must be the same size. One of the shorter sides of the sheet is regarded as its top. The size of the sheets on which drawings are made must be:

- (1) 21.0 cm. by 29.7 cm. (DIN size A4), or
- (2) 21.6 cm. by 27.9 cm. (8 1/2 by 11 inches).

(g) *Margins.* The sheets must not contain frames around the sight (*i.e.*, the usable surface), but should have scan target points (*i.e.*, cross-hairs) printed on two cater-corner margin corners. Each sheet must include a top margin of at least 2.5 cm. (1 inch), a left side margin of at least 2.5 cm. (1 inch), a right side margin of at least 1.5 cm. (5/8 inch), and a bottom margin of at least 1.0 cm. (3/8 inch), thereby leaving a sight no greater than 17.0 cm. by 26.2 cm. on 21.0 cm. by 29.7 cm. (DIN size A4) drawing sheets, and a sight no greater than 17.6 cm. by 24.4 cm. (6 15/16 by 9 5/8 inches) on 21.6 cm. by 27.9 cm. (8 1/2 by 11 inch) drawing sheets.

(h) *Views.* The drawing must contain as many views as necessary to show the invention. The views may be plan, elevation, section, or perspective views. Detail views of portions of elements, on a larger scale

if necessary, may also be used. All views of the drawing must be grouped together and arranged on the sheet(s) without wasting space, preferably in an upright position, clearly separated from one another, and must not be included in the sheets containing the specifications, claims, or abstract. Views must not be connected by projection lines and must not contain center lines. Waveforms of electrical signals may be connected by dashed lines to show the relative timing of the waveforms.

(1) *Exploded views.* Exploded views, with the separated parts embraced by a bracket, to show the relationship or order of assembly of various parts are permissible. When an exploded view is shown in a figure which is on the same sheet as another figure, the exploded view should be placed in brackets.

(2) *Partial views.* When necessary, a view of a large machine or device in its entirety may be broken into partial views on a single sheet, or extended over several sheets if there is no loss in facility of understanding the view. Partial views drawn on separate sheets must always be capable of being linked edge to edge so that no partial view contains parts of another partial view. A smaller scale view should be included showing the whole formed by the partial views and indicating the positions of the parts shown. When a portion of a view is enlarged for magnification purposes, the view and the enlarged view must each be labeled as separate views.

(i) Where views on two or more sheets form, in effect, a single complete view, the views on the several sheets must be so arranged that the complete figure can be assembled without concealing any part of any of the views appearing on the various sheets.

(ii) A very long view may be divided into several parts placed one above the other on a single sheet. However, the relationship between the different parts must be clear and unambiguous.

(3) *Sectional views.* The plane upon which a sectional view is taken should be indicated on the view from which the section is cut by a broken line. The ends of the broken line should be designated by Arabic or Roman numerals corresponding to the view number of the sectional view, and should have arrows to indicate the direction of sight. Hatching must be used to indicate section portions of an object, and must be made by regularly spaced oblique parallel

lines spaced sufficiently apart to enable the lines to be distinguished without difficulty. Hatching should not impede the clear reading of the reference characters and lead lines. If it is not possible to place reference characters outside the hatched area, the hatching may be broken off wherever reference characters are inserted. Hatching must be at a substantial angle to the surrounding axes or principal lines, preferably 45°. A cross section must be set out and drawn to show all of the materials as they are shown in the view from which the cross section was taken. The parts in cross section must show proper material(s) by hatching with regularly spaced parallel oblique strokes, the space between strokes being chosen on the basis of the total area to be hatched. The various parts of a cross section of the same item should be hatched in the same manner and should accurately and graphically indicate the nature of the material(s) that is illustrated in cross section. The hatching of juxtaposed different elements must be angled in a different way. In the case of large areas, hatching may be confined to an edging drawn around the entire inside of the outline of the area to be hatched. Different types of hatching should have different conventional meanings as regards the nature of a material seen in cross section.

(4) *Alternate position.* A moved position may be shown by a broken line superimposed upon a suitable view if this can be done without crowding; otherwise, a separate view must be used for this purpose.

(5) *Modified forms.* Modified forms of construction must be shown in separate views.

(i) *Arrangement of views.* One view must not be placed upon another or within the outline of another. All views on the same sheet should stand in the same direction and, if possible, stand so that they can be read with the sheet held in an upright position. If views wider than the width of the sheet are necessary for the clearest illustration of the invention, the sheet may be turned on its side so that the top of the sheet, with the appropriate top margin to be used as the heading space, is on the right-hand side. Words must appear in a horizontal, left-to-right fashion when the page is either upright or turned so that the top becomes the right side, except for graphs utilizing standard scientific convention to denote the axis of abscissas (of X) and the axis of ordinates (of Y).

(j) *Front page view.* The drawing must contain as many views as necessary to show the invention. One of the views should be suitable for inclusion on the front page of the patent application publication and patent as the illustration of the invention. Views must not be connected by projection lines and must not contain center lines. Applicant may suggest a single view (by figure number) for inclusion on the front page of the patent application publication and patent.

(k) *Scale.* The scale to which a drawing is made must be large enough to show the mechanism without crowding when the drawing is reduced in size to two-thirds in reproduction. Indications such as “actual size” or “scale 1/2” on the drawings are not permitted since these lose their meaning with reproduction in a different format.

(l) *Character of lines, numbers, and letters.* All drawings must be made by a process which will give them satisfactory reproduction characteristics. Every line, number, and letter must be durable, clean, black (except for color drawings), sufficiently dense and dark, and uniformly thick and well-defined. The weight of all lines and letters must be heavy enough to permit adequate reproduction. This requirement applies to all lines however fine, to shading, and to lines representing cut surfaces in sectional views. Lines and strokes of different thicknesses may be used in the same drawing where different thicknesses have a different meaning.

(m) *Shading.* The use of shading in views is encouraged if it aids in understanding the invention and if it does not reduce legibility. Shading is used to indicate the surface or shape of spherical, cylindrical, and conical elements of an object. Flat parts may also be lightly shaded. Such shading is preferred in the case of parts shown in perspective, but not for cross sections. See paragraph (h)(3) of this section. Spaced lines for shading are preferred. These lines must be thin, as few in number as practicable, and they must contrast with the rest of the drawings. As a substitute for shading, heavy lines on the shade side of objects can be used except where they superimpose on each other or obscure reference characters. Light should come from the upper left corner at an angle of 45°. Surface delineations should preferably be shown by proper shading. Solid black shading areas are not permitted, except when used to represent bar graphs or color.

(n) *Symbols.* Graphical drawing symbols may be used for conventional elements when appropriate. The elements for which such symbols and labeled representations are used must be adequately identified in the specification. Known devices should be illustrated by symbols which have a universally recognized conventional meaning and are generally accepted in the art. Other symbols which are not universally recognized may be used, subject to approval by the Office, if they are not likely to be confused with existing conventional symbols, and if they are readily identifiable.

(o) *Legends.* Suitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawing. They should contain as few words as possible.

(p) *Numbers, letters, and reference characters.*

(1) Reference characters (numerals are preferred), sheet numbers, and view numbers must be plain and legible, and must not be used in association with brackets or inverted commas, or enclosed within outlines, *e.g.*, encircled. They must be oriented in the same direction as the view so as to avoid having to rotate the sheet. Reference characters should be arranged to follow the profile of the object depicted.

(2) The English alphabet must be used for letters, except where another alphabet is customarily used, such as the Greek alphabet to indicate angles, wavelengths, and mathematical formulas.

(3) Numbers, letters, and reference characters must measure at least 32 cm. (1/8 inch) in height. They should not be placed in the drawing so as to interfere with its comprehension. Therefore, they should not cross or mingle with the lines. They should not be placed upon hatched or shaded surfaces. When necessary, such as indicating a surface or cross section, a reference character may be underlined and a blank space may be left in the hatching or shading where the character occurs so that it appears distinct.

(4) The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character, and the same reference character must never be used to designate different parts.

(5) Reference characters not mentioned in the description shall not appear in the drawings. Ref-

erence characters mentioned in the description must appear in the drawings.

(q) *Lead lines.* Lead lines are those lines between the reference characters and the details referred to. Such lines may be straight or curved and should be as short as possible. They must originate in the immediate proximity of the reference character and extend to the feature indicated. Lead lines must not cross each other. Lead lines are required for each reference character except for those which indicate the surface or cross section on which they are placed. Such a reference character must be underlined to make it clear that a lead line has not been left out by mistake. Lead lines must be executed in the same way as lines in the drawing. See paragraph (1) of this section.

(r) *Arrows.* Arrows may be used at the ends of lines, provided that their meaning is clear, as follows:

(1) On a lead line, a freestanding arrow to indicate the entire section towards which it points;

(2) On a lead line, an arrow touching a line to indicate the surface shown by the line looking along the direction of the arrow; or

(3) To show the direction of movement.

(s) *Copyright or Mask Work Notice.* A copyright or mask work notice may appear in the drawing, but must be placed within the sight of the drawing immediately below the figure representing the copyright or mask work material and be limited to letters having a print size of 32 cm. to 64 cm. (1/8 to 1/4 inches) high. The content of the notice must be limited to only those elements provided for by law. For example, “©1983 John Doe” (17 U.S.C. 401) and “*M* John Doe” (17 U.S.C. 909) would be properly limited and, under current statutes, legally sufficient notices of copyright and mask work, respectively. Inclusion of a copyright or mask work notice will be permitted only if the authorization language set forth in § 1.71(e) is included at the beginning (preferably as the first paragraph) of the specification.

(t) *Numbering of sheets of drawings.* The sheets of drawings should be numbered in consecutive Arabic numerals, starting with 1, within the sight as defined in paragraph (g) of this section. These numbers, if present, must be placed in the middle of the top of the sheet, but not in the margin. The numbers can be placed on the right-hand side if the drawing extends too close to the middle of the top edge of

the usable surface. The drawing sheet numbering must be clear and larger than the numbers used as reference characters to avoid confusion. The number of each sheet should be shown by two Arabic numerals placed on either side of an oblique line, with the first being the sheet number and the second being the total number of sheets of drawings, with no other marking.

(u) *Numbering of views.*

(1) The different views must be numbered in consecutive Arabic numerals, starting with 1, independent of the numbering of the sheets and, if possible, in the order in which they appear on the drawing sheet(s). Partial views intended to form one complete view, on one or several sheets, must be identified by the same number followed by a capital letter. View numbers must be preceded by the abbreviation “FIG.” Where only a single view is used in an application to illustrate the claimed invention, it must not be numbered and the abbreviation “FIG.” must not appear.

(2) Numbers and letters identifying the views must be simple and clear and must not be used in association with brackets, circles, or inverted commas. The view numbers must be larger than the numbers used for reference characters.

(v) *Security markings.* Authorized security markings may be placed on the drawings provided they are outside the sight, preferably centered in the top margin.

(w) *Corrections.* Any corrections on drawings submitted to the Office must be durable and permanent.

(x) *Holes.* No holes should be made by applicant in the drawing sheets.

(y) *Types of drawings.* See § 1.152 for design drawings, § 1.165 for plant drawings, and § 1.173(a)(2) for reissue drawings.

[24 FR 10332, Dec. 22, 1959; 31 FR 12923, Oct. 4, 1966; 36 FR 9775, May 28, 1971; 43 FR 20464, May 11, 1978; 45 FR 73657, Nov. 6, 1980; paras. (a), (b), (i), (j), and (l) amended, paras. (n), (o), and (p) added, 53 FR 47809, Nov. 28, 1988, effective Jan. 1, 1989; revised, 58 FR 38719, July 20, 1993, effective Oct. 1, 1993; paras. (c), (f), (g), and (x) revised, 61 FR 42790, Aug. 19, 1996, effective Sept. 23, 1996; paras. (a)(2)(i), (b), (c) & (g) revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997; paras. (a), (b), (c), (j), (k), (o), and (x) revised, and para. (y) added, 65 FR 54604, Sept. 8, 2000, effective Nov. 7, 2000; paras. (a)(2), (e), and (j) revised, 65 FR 57024, Sept. 20, 2000, effective

Nov. 29, 2000; para. (c) revised, 69 FR 56481, Sept. 21, 2004, effective Sept. 21, 2004; para. (a)(2) revised, 69 FR 56481, Sept. 21, 2004, effective Nov. 22, 2004; para. (y) revised, 70 FR 3880, Jan. 27, 2005, effective Dec. 8, 2004]

§ 1.85 **Corrections to drawings.**

(a) A utility or plant application will not be placed on the files for examination until objections to the drawings have been corrected. Except as provided in § 1.215(c), any patent application publication will not include drawings filed after the application has been placed on the files for examination. Unless applicant is otherwise notified in an Office action, objections to the drawings in a utility or plant application will not be held in abeyance, and a request to hold objections to the drawings in abeyance will not be considered a *bona fide* attempt to advance the application to final action (§ 1.135(c)). If a drawing in a design application meets the requirements of § 1.84(e), (f), and (g) and is suitable for reproduction, but is not otherwise in compliance with § 1.84, the drawing may be admitted for examination.

(b) The Office will not release drawings for purposes of correction. If corrections are necessary, new corrected drawings must be submitted within the time set by the Office.

(c) If a corrected drawing is required or if a drawing does not comply with § 1.84 at the time an application is allowed, the Office may notify the applicant and set a three-month period of time from the mail date of the notice of allowability within which the applicant must file a corrected drawing in compliance with § 1.84 to avoid abandonment. This time period is not extendable under § 1.136(a) or § 1.136(b).

[47 FR 41276, Sept. 17, 1982, effective Oct. 1, 1982; 53 FR 47810, Nov. 28, 1988, effective Jan. 1, 1989; revised, 65 FR 54604, Sept. 8, 2000, effective Nov. 7, 2000; para. (a) revised, 65 FR 57024, Sept. 20, 2000, effective Nov. 29, 2000; para. (c) revised, 69 FR 56481, Sept. 21, 2004, effective Oct. 21, 2004]

§ 1.88 **[Reserved]**

[Deleted, 58 FR 38719, July 20, 1993, effective Oct. 1, 1993]

changes made by the final rules in 72 FR 46716 from the CFR)]

§ 1.146 Election of species.

In the first action on an application containing a generic claim to a generic invention (genus) and claims to more than one patentably distinct species embraced thereby, the examiner may require the applicant in the reply to that action to elect a species of his or her invention to which his or her claim will be restricted if no claim to the genus is found to be allowable. However, if such application contains claims directed to more than a reasonable number of species, the examiner may require restriction of the claims to not more than a reasonable number of species before taking further action in the application.

[43 FR 20465, May 11, 1978; revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997]

DESIGN PATENTS

§ 1.151 Rules applicable.

The rules relating to applications for patents for other inventions or discoveries are also applicable to applications for patents for designs except as otherwise provided.

§ 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 dis-

close environmental structure but must be limited to the design claimed for the article.

[53 FR 47810, Nov. 28, 1988, effective Jan. 1, 1989; amended, 58 FR 38719, July 20, 1993, effective Oct. 1, 1993; revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997; revised, 65 FR 54604, Sept. 8, 2000, effective Sept. 8, 2000]

§ 1.153 Title, description and claim, oath or declaration.

(a) The title of the design must designate the particular article. No description, other than a reference to the drawing, is ordinarily required. The claim shall be in formal terms to the ornamental design for the article (specifying name) as shown, or as shown and described. More than one claim is neither required nor permitted.

(b) The oath or declaration required of the applicant must comply with § 1.63.

[24 FR 10332, Dec. 22, 1959; 29 FR 18503, Dec. 29, 1964; para. (b), 48 FR 2712, Jan. 20, 1983, effective Feb. 27, 1983]

§ 1.154 Arrangement of application elements in a design application.

(a) The elements of the design application, if applicable, should appear in the following order:

- (1) Design application transmittal form.
- (2) Fee transmittal form.
- (3) Application data sheet (see § 1.76).
- (4) Specification.
- (5) Drawings or photographs.
- (6) Executed oath or declaration (see § 1.153(b)).

(b) The specification should include the following sections in order:

- (1) Preamble, stating the name of the applicant, title of the design, and a brief description of the nature and intended use of the article in which the design is embodied.
- (2) Cross-reference to related applications (unless included in the application data sheet).
- (3) Statement regarding federally sponsored research or development.
- (4) Description of the figure or figures of the drawing.

(10) A single claim.

(11) Abstract of the disclosure.

(d) The text of the specification or sections defined in paragraph (c) of this section, if applicable, should be preceded by a section heading in upper case, without underlining or bold type.

[24 FR 10332, Dec. 22, 1959; para. (b), 48 FR 2713, Jan. 20, 1983, effective Feb. 27, 1983; paras. (c) and (d) added, 61 FR 42790, Aug. 19, 1996, effective Sept. 23, 1996; para. (b) revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997; revised, 65 FR 54604, Sept. 8, 2000, effective Nov. 7, 2000]

§ 1.164 Claim.

The claim shall be in formal terms to the new and distinct variety of the specified plant as described and illustrated, and may also recite the principal distinguishing characteristics. More than one claim is not permitted.

§ 1.165 Plant Drawings.

(a) Plant patent drawings should be artistically and competently executed and must comply with the requirements of § 1.84. View numbers and reference characters need not be employed unless required by the examiner. The drawing must disclose all the distinctive characteristics of the plant capable of visual representation.

(b) The drawings may be in color. The drawing must be in color if color is a distinguishing characteristic of the new variety. Two copies of color drawings or photographs must be submitted.

[24 FR 10332, Dec. 22, 1959; para. (b), 47 FR 41277, Sept. 17, 1982, effective Oct. 1, 1982; paras. (a) and (b) amended, 58 FR 38719, July 20, 1993, effective Oct. 1, 1993; para. (b) revised, 65 FR 57024, Sept. 20, 2000, effective Nov. 29, 2000; para. (b) revised, 69 FR 56481, Sept. 21, 2004, effective Oct. 21, 2004]

§ 1.166 Specimens.

The applicant may be required to furnish specimens of the plant, or its flower or fruit, in a quantity and at a time in its stage of growth as may be designated, for study and inspection. Such specimens, properly packed, must be forwarded in conformity with instructions furnished to the applicant. When it is not

possible to forward such specimens, plants must be made available for official inspection where grown.

§ 1.167 Examination.

Applications may be submitted by the Patent and Trademark Office to the Department of Agriculture for study and report.

[24 FR 10332, Dec. 22, 1959; 34 FR 18857, Nov. 26, 1969; revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997]

REISSUES

§ 1.171 Application for reissue.

An application for reissue must contain the same parts required for an application for an original patent, complying with all the rules relating thereto except as otherwise provided, and in addition, must comply with the requirements of the rules relating to reissue applications.

[47 FR 41278, Sept. 17, 1982, effective Oct. 1, 1982; revised, 54 FR 6893, Feb. 17, 1989, 54 FR 9432, March 7, 1989, effective Apr. 17, 1989; 56 FR 65142, Dec. 13, 1991, effective Dec. 16, 1991; revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997]

§ 1.172 Applicants, assignees.

(a) A reissue oath must be signed and sworn to or declaration made by the inventor or inventors except as otherwise provided (see §§ 1.42, 1.43, 1.47), and must be accompanied by the written consent of all assignees, if any, owning an undivided interest in the patent, but a reissue oath may be made and sworn to or declaration made by the assignee of the entire interest if the application does not seek to enlarge the scope of the claims of the original patent. All assignees consenting to the reissue must establish their ownership interest in the patent by filing in the reissue application a submission in accordance with the provisions of § 3.73(b) of this chapter.

(b) A reissue will be granted to the original patentee, his legal representatives or assigns as the interest may appear.

[24 FR 10332, Dec. 22, 1959; para. (a), 48 FR 2713, Jan. 20, 1983, effective Feb. 27, 1983; para. (a) revised, 62 FR 53131, Oct. 10, 1997, effective Dec. 1, 1997]

§ 1.173 Reissue specification, drawings, and amendments.

(a) *Contents of a reissue application.* An application for reissue must contain the entire specification, including the claims, and the drawings of the patent. No new matter shall be introduced into the application. No reissue patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent, pursuant to 35 U.S.C. 251.

(1) *Specification, including claims.* The entire specification, including the claims, of the patent for which reissue is requested must be furnished in the form of a copy of the printed patent, in double column format, each page on only one side of a single sheet of paper. If an amendment of the reissue application is to be included, it must be made pursuant to paragraph (b) of this section. The formal requirements for papers making up the reissue application other than those set forth in this section are set out in § 1.52. Additionally, a copy of any disclaimer (§ 1.321), certificate of correction (§§ 1.322 through 1.324), or reexamination certificate (§ 1.570) issued in the patent must be included. (See also § 1.178).

(2) *Drawings.* Applicant must submit a clean copy of each drawing sheet of the printed patent at the time the reissue application is filed. If such copy complies with § 1.84, no further drawings will be required. Where a drawing of the reissue application is to include any changes relative to the patent being reissued, the changes to the drawing must be made in accordance with paragraph (b)(3) of this section. The Office will not transfer the drawings from the patent file to the reissue application.

(b) *Making amendments in a reissue application.* An amendment in a reissue application is made either by physically incorporating the changes into the specification when the application is filed, or by a separate amendment paper. If amendment is made by incorporation, markings pursuant to paragraph (d) of this section must be used. If amendment is made by an amendment paper, the paper must direct that specified changes be made, as follows:

(1) *Specification other than the claims.* Changes to the specification, other than to the claims, must be made by submission of the entire text of an added or rewritten paragraph, including markings pursuant to paragraph (d) of this section, except that an

entire paragraph may be deleted by a statement deleting the paragraph without presentation of the text of the paragraph. The precise point in the specification must be identified where any added or rewritten paragraph is located. This paragraph applies whether the amendment is submitted on paper or compact disc (see §§ 1.52(e)(1) and 1.821(c), but not for discs submitted under § 1.821(e)).

(2) *Claims.* An amendment paper must include the entire text of each claim being changed by such amendment paper and of each claim being added by such amendment paper. For any claim changed by the amendment paper, a parenthetical expression “amended,” “twice amended,” *etc.*, should follow the claim number. Each changed patent claim and each added claim must include markings pursuant to paragraph (d) of this section, except that a patent claim or added claim should be canceled by a statement canceling the claim without presentation of the text of the claim.

(3) *Drawings.* One or more patent drawings shall be amended in the following manner: Any changes to a patent drawing must be submitted as a replacement sheet of drawings which shall be an attachment to the amendment document. Any replacement sheet of drawings must be in compliance with § 1.84 and shall include all of the figures appearing on the original version of the sheet, even if only one figure is amended. Amended figures must be identified as “Amended,” and any added figure must be identified as “New.” In the event that a figure is canceled, the figure must be surrounded by brackets and identified as “Canceled.” All changes to the drawing(s) shall be explained, in detail, beginning on a separate sheet accompanying the papers including the amendment to the drawings.

(i) A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be included. The marked-up copy must be clearly labeled as “Annotated Marked-up Drawings” and must be presented in the amendment or remarks section that explains the change to the drawings.

(ii) A marked-up copy of any amended drawing figure, including annotations indicating the changes made, must be provided when required by the examiner.

(2) A reference to any prior-filed national application or international application designating the United States of America, if the benefit of the filing date for the prior-filed application is to be claimed.

(e) An international application may also include in the Request a declaration of the inventors as provided for in PCT Rule 4.17(iv).

[Para. (a) amended, 58 FR 4335, Jan. 14, 1993, effective May 1, 1993; para. (d) revised, 66 FR 16004, Mar. 22, 2001, effective Mar. 1, 2001; para. (d)(2) revised, 66 FR 67087, Dec. 28, 2001, effective Dec. 28, 2001; paras. (a) & (d)(2) revised, 68 FR 14332, Mar. 25, 2003, effective May 1, 2003; para. (d) revised, para (e) added, 68 FR 58991, Oct. 20, 2003, effective Jan. 1, 2004]

§ 1.435 The description.

(a) The application must meet the requirements as to the content and form of the description set forth in PCT Rules 5, 9, 10, and 11 and sections 204 and 208 of the Administrative Instructions.

(b) In international applications designating the United States the description must contain upon filing an indication of the best mode contemplated by the inventor for carrying out the claimed invention.

[Para. (a) revised, 63 FR 29614, June 1, 1998, effective July 1, 1998 (adopted as final, 63 FR 66040, Dec. 1, 1998)]

§ 1.436 The claims.

The requirements as to the content and format of claims are set forth in PCT Art. 6 and PCT Rules 6, 9, 10 and 11 and shall be adhered to. The number of the claims shall be reasonable, considering the nature of the invention claimed.

§ 1.437 The drawings.

(a) Drawings are required when they are necessary for the understanding of the invention (PCT Art. 7).

(b) The physical requirements for drawings are set forth in PCT Rule 11 and shall be adhered to.

[Revised, 72 FR 51559, Sept. 10, 2007, effective Sept. 10, 2007]

§ 1.438 The abstract.

(a) Requirements as to the content and form of the abstract are set forth in PCT Rule 8, and shall be adhered to.

(b) Lack of an abstract upon filing of an international application will not affect the granting of a filing date. However, failure to furnish an abstract within one month from the date of the notification by the Receiving Office will result in the international application being declared withdrawn.

FEES

§ 1.445 International application filing, processing and search fees.

(a) The following fees and charges for international applications are established by the Director under the authority of 35 U.S.C. 376:

(1) A transmittal fee (see 35 U.S.C. 361 (d) and PCT Rule 14) \$240.00

(2) A search fee (see 35 U.S.C. 361 (d) and PCT Rule 16) \$2,080.00

(3) A supplemental search fee when required, per additional invention \$2,080.00

(4) A fee equivalent to the transmittal fee in paragraph (a)(1) of this section for transmittal of an international application to the International Bureau for processing in its capacity as a Receiving Office (PCT Rule 19.4).

(b) The international filing fee shall be as prescribed in PCT Rule 15.

[43 FR 20466, May 11, 1978; para. (a), 47 FR 41282, Sept. 17, 1982, effective Oct. 1, 1982; para. (a)(4) - (6), 50 FR 9384, Mar. 7, 1985, effective May 8, 1985; 50 FR 31826, Aug. 6, 1985, effective Oct. 5, 1985; para. (a) amended 52 FR 20047, May 28, 1987; paras. (a)(2) and (3), 54 FR 6893, Feb. 15, 1989, 54 FR 9432, March 7, 1989, effective Apr. 17, 1989; para. (a), 56 FR 65142, Dec. 13, 1991, effective Dec. 27, 1991; para. (a), 57 FR 38190, Aug. 21, 1992, effective Oct. 1, 1992; para. (a)(4) added, 58 FR 4335, Jan. 14, 1993, effective May 1, 1993; paras. (a)(1)-(3), 59 FR 43736, Aug. 25, 1994, effective Oct. 1, 1994; para. (a)(5) added, 60 FR 21438, May 2, 1995, effective June 1, 1995; para. (a) amended, 60 FR 41018, Aug. 11, 1995, effective Oct. 1, 1995; para. (a) amended, 61 FR 39585, July 30, 1996, effective Oct. 1, 1996; para. (a) amended, 62 FR 40450, July 29, 1997, effective Oct. 1, 1997; para. (a) revised, 63 FR 29614, June 1, 1998, effective July 1, 1998 (adopted as final, 63 FR 66040, Dec. 1,