

Extracts from

Manual of Patent Examining
Procedure (MPEP)

Chapter 600

relates, of the nature of the invention, the summary should be directed to the specific invention being claimed, in contradistinction to mere generalities which would be equally applicable to numerous preceding patents. That is, the subject matter of the invention should be described in one or more clear, concise sentences or paragraphs. Stereotyped general statements that would fit one application as well as another serve no useful purpose and may well be required to be canceled as surplusage, and, in the absence of any illuminating statement, replaced by statements that are directly on point as applicable exclusively to the case at hand.

The brief summary, if properly written to set out the exact nature, operation, and purpose of the invention, will be of material assistance in aiding ready understanding of the patent in future searches. The brief summary should be more than a mere statement of the objects of the invention, which statement is also permissible under 37 CFR 1.73.

The brief summary of invention should be consistent with the subject matter of the claims. Note final review of application and preparation for issue, MPEP § 1302.

608.01(e) Reservation Clauses Not Permitted

37 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.

608.01(f) Brief Description of Drawings [R-7]

37 CFR 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).

The Office of Patent Application Processing (OPAP) will review the specification, including the brief description, to determine whether all of the figures of drawings described in the specification are present. If the specification describes a figure which is not present in the drawings, the application will be

treated as an application filed without all figures of drawings in accordance with MPEP § 601.01(g), unless the application lacks any drawings, in which case the application will be treated as an application filed without drawings in accordance with MPEP § 601.01(f).

The examiner should see to it that the figures are correctly described in the brief description of the drawing, that all section lines used are referred to, and that all needed section lines are used. If the drawings show Figures 1A, 1B, and 1C and the brief description of the drawings refers only to Figure 1, the examiner should object to the brief description, and require applicant to provide a brief description of Figures 1A, 1B, and 1C.

The specification must contain or be amended to contain proper reference to the existence of drawings executed in color as required by 37 CFR 1.84.

37 CFR 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), auto- radiographs, 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.

608.01(g) Detailed Description of Invention [R-7]

A detailed description of the invention and drawings follows the general statement of invention and brief description of the drawings. This detailed description, required by 37 CFR 1.71, MPEP § 608.01, must be in such particularity as to enable any person skilled in the pertinent art or science to make and use the invention without involving extensive experimentation. An applicant is ordinarily permitted to use his or her own terminology, as long as it can be understood. Necessary grammatical corrections, however, should be required by the examiner, but it must be remembered that an examination is not made for the purpose of securing grammatical perfection.

The reference characters must be properly applied, no single reference character being used for two different parts or for a given part and a modification of such part. **>See 37 CFR 1.84(p).< Every feature specified in the claims must be illustrated, but there should be no superfluous illustrations.

The description is a dictionary for the claims and should provide clear support or antecedent basis for all terms used in the claims. See 37 CFR 1.75, MPEP § 608.01(i), § 608.01(o), and § 1302.01.

For completeness, see MPEP § 608.01(p).

USE OF SYMBOL “Phi” IN PATENT APPLICATION

The Greek letter “Phi” has long been used as a symbol in equations in all technical disciplines. It further has special uses which include the indication of an electrical phase or clocking signal as well as an angular measurement. The recognized symbols for the upper and lower case Greek Phi characters, however, do not appear on most typewriters. This apparently has led to the use of a symbol composed by first striking a zero key and then backspacing and striking the “cancel” or “slash” key to result in an approximation of accepted symbols for the Greek character Phi. In other instances, the symbol is composed using the upper or lower case letter “O” with the “cancel” or “slash” superimposed thereon by backspacing, or it is simply handwritten in a variety of styles. These expedients result in confusion because of the variety of type sizes and styles available on modern typewriters.

In recent years, the growth of data processing has seen the increasing use of this symbol (“Ø”) as the standard representation of zero. The “slashed” or “canceled” zero is used to indicate zero and avoid confusion with the upper case letter “O” in both text and drawings.

Thus, when the symbol “Ø” in one of its many variations, as discussed above, appears in patent applications being prepared for printing, confusion as to the intended meaning of the symbol arises. Those (such as examiners, attorneys, and applicants) working in the art can usually determine the intended meaning of this symbol because of their knowledge of the subject matter involved, but editors preparing these applications for printing have no such specialized knowledge and confusion arises as to which symbol to print. The result, at the very least, is delay until the intended meaning of the symbol can be ascertained.

Since the Office does not have the resources to conduct a technical editorial review of each application before printing, and in order to eliminate the problem of printing delays associated with the usage of these symbols, any question about the intended symbol will be resolved by the editorial staff of the Office of Patent Publication by printing the symbol Ø whenever that symbol is used by the applicant. Any Certificate of Correction necessitated by the above practice will be at the patentee’s expense (37 CFR 1.323) because the intended symbol was not accurately presented by

(B) The content of the notice must be limited to only those elements required 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.

(C) Inclusion of a copyright or mask work notice will be permitted only if the following authorization in 37 CFR 1.71(e) is included at the beginning (preferably as the first paragraph) of the specification to be printed for the patent:

A portion of the disclosure of this patent document contains material which is subject to (copyright or mask work) protection. The (copyright or mask work) owner has no objection to the facsimile reproduction by anyone of the patent disclosure, as it appears in the Patent and Trademark Office patent files or records, but otherwise reserves all (copyright or mask work) rights whatsoever.

(D) Inclusion of a copyright or mask work notice after a Notice of Allowance has been mailed will be permitted only if the criteria of 37 CFR 1.312 have been satisfied.

The inclusion of a copyright or mask work notice in a design or utility patent application, and thereby any patent issuing therefrom, under the conditions set forth above will serve to protect the rights of the author/inventor, as well as the public, and will serve to promote the mission and goals of the U.S. Patent and Trademark Office. Therefore, the inclusion of a copyright or mask work notice which complies with these conditions will be permitted. However, any departure from these conditions may result in a refusal to permit the desired inclusion. If the authorization required under condition (C) above does not include the specific language “(t)he (copyright or mask work) owner has no objection to the facsimile reproduction by anyone of the patent document or the patent disclosure, as it appears in the Patent and Trademark Office patent files or records,…” the notice will be objected to as improper by the examiner of the application. If the examiner maintains the objection upon reconsideration, a petition may be filed in accordance with 37 CFR 1.181.

608.02 Drawing [R-7]

35 U.S.C. 113. Drawings.

The applicant shall furnish a drawing where necessary for the understanding of the subject matter to be patented. When the

nature of such subject matter admits of illustration by a drawing and the applicant has not furnished such a drawing, the Commissioner may require its submission within a time period of not less than two months from the sending of a notice thereof. Drawings submitted after the filing date of the application may not be used (i) to overcome any insufficiency of the specification due to lack of an enabling disclosure or otherwise inadequate disclosure therein, or (ii) to supplement the original disclosure thereof for the purpose of interpretation of the scope of any claim.

37 CFR 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, flow sheets 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.

I. DRAWING REQUIREMENTS

The first sentence of 35 U.S.C 113 requires a drawing to be submitted upon filing where such drawing is necessary for the understanding of the invention. In this situation, the lack of a drawing renders the application incomplete and, as such, the application cannot be given a filing date until the drawing is received. The second sentence of 35 U.S.C. 113 addresses the situation wherein a drawing is not necessary for the understanding of the invention, but the subject matter sought to be patented admits of illustration and no drawing was submitted on filing. The lack of a drawing in this situation does not render the application incomplete but rather is treated as an informality. The examiner should require such drawings in almost all such instances. Such drawings could be required during the initial processing of the application but do not have to be furnished at the time the application is filed. The applicant is given at least

2 months from the date of the letter requiring drawings to submit the drawing(s).

If the specification includes a sequence listing or a table, such a sequence listing or table is not permitted to be reprinted in the drawings. 37 CFR 1.83(a) and 1.58(a). If a sequence listing as shown in the drawings has more information than is contained in the specification, the sequence listing could be included in the specification and the drawings. Applications filed under 35 U.S.C. 371 are excluded from the prohibition from having the same tables and sequence listings in both the description portion of the specification and drawings.

II. RECEIPT OF DRAWING AFTER THE FILING DATE

If the examiner discovers new matter in a substitute or additional drawing, the drawing should not be entered. The drawing should be objected to as containing new matter. A new drawing without such new matter may be required if the examiner determines that a drawing is needed under 37 CFR 1.81 or 37 CFR 1.83. The examiner's decision would be reviewable by filing a petition under 37 CFR 1.181. The Technology Center (TC) Director would decide such a petition.

III. HANDLING OF DRAWING REQUIREMENTS UNDER THE FIRST SENTENCE OF 35 U.S.C 113

The Office of Patent Application Processing (OPAP) will make the initial decision in all new applications as to whether a drawing is "necessary" under the first sentence of 35 U.S.C. 113. A drawing will be considered necessary under the first sentence of 35 U.S.C. 113 in all applications where the drawing is referred to in the specification and one or more figures have been omitted.

The determination under 35 U.S.C. 113 (first sentence) as to when a drawing is necessary will be handled in OPAP in accordance with the following procedure. OPAP will make the initial determination as to whether drawings are required for the understanding of the subject matter of the invention. When no drawings are included in the application as filed and drawings are required, the application is

treated as incomplete and the applicant is so informed by OPAP. A filing date will not be granted and applicant will be notified to complete the application (37 CFR 1.53(e)). If a drawing is later furnished, a filing date may be granted as of the date of receipt of such drawing.

An OPAP formality examiner should not treat an application without drawings as incomplete if drawings are not required. A drawing is not required for a filing date under 35 U.S.C. 111 and 113 if the application contains:

(A) at least one process claim including the term "process" or "method" in its introductory phrase;

(B) at least one composition claim including the term "composition," "compound," "mixture" or "pharmaceutical" in its introductory phrase;

(C) at least one claim directed to a coated article or product or to an article or product made from a particular material or composition (i.e., an article of known and conventional character (e.g., a table), coated with or made of a particular composition (e.g., a specified polymer such as polyvinyl-chloride));

(D) at least one claim directed to a laminated article or product (i.e., a laminated article of known and conventional character (e.g., a table)); or

(E) at least one claim directed to an article, apparatus, or system where the sole distinguishing feature is the presence of a particular material (e.g., a hydraulic system using a particular hydraulic fluid, or a conventional packaged suture using a particular material).

For a more complete explanation about when a drawing is required, see MPEP § 601.01(f). For applications submitted without all of the drawings described in the specification, see MPEP § 601.01(g).

If an examiner determines that a filing date should not have been granted in an application because it does not contain drawings, the matter should be brought to the attention of the supervisory patent examiner (SPE) for review. If the SPE decides that drawings are required to understand the subject matter of the invention, the SPE should return the application to OPAP with a typed, signed, and dated memorandum requesting cancellation of the filing date and identifying the subject matter required to be illustrated.

IV. HANDLING OF DRAWING REQUIREMENTS UNDER THE SECOND SENTENCE OF 35 U.S.C 113 - ILLUSTRATION SUBSEQUENTLY REQUIRED

35 U.S.C.113 addresses the situation wherein a drawing is not necessary for the understanding of the invention, but the subject matter sought to be patented admits of illustration by a drawing and the applicant has not furnished a drawing. The lack of a drawing in this situation does not render the application incomplete but rather is treated as an informality. A filing date will be accorded with the original presentation of the papers, despite the absence of drawings. The acceptance of an application without a drawing does not preclude the examiner from requiring an illustration in the form of a drawing under 37 CFR 1.81(c) or 37 CFR 1.83(c). In requiring such a drawing, the examiner should clearly indicate that the requirement is made under 37 CFR 1.81(c) or 37 CFR 1.83(a) and be careful not to state that he or she is doing so “because it is necessary for the understanding of the invention,” as that might give rise to an erroneous impression as to the completeness of the application as filed. Examiners making such requirements are to specifically require, as a part of the applicant’s next reply, at least an ink sketch or permanent print of any drawing in reply to the requirement, even though no allowable subject matter is yet indicated. This will afford the examiner an early opportunity to determine the sufficiency of the illustration and the absence of new matter. See 37 CFR 1.121 and 37 CFR 1.81(d). One of the following form paragraphs may be used to require a drawing:

¶ 6.23 Subject Matter Admits of Illustration

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. 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).

Examiner Note:

When requiring drawings before examination use form paragraph 6.23.01 with a PTOL-90 or PTO-90C form as a cover sheet.

¶ 6.23.01 Subject Matter Admits of Illustration (No Examination of Claims)

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81. No new matter may be introduced in the required drawing.

Applicant is given a TWO MONTH time period to submit a drawing in compliance with 37 CFR 1.81. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a). Failure to timely submit a drawing will result in **ABANDONMENT** of the application.

Examiner Note:

1. Use of this form paragraph should be extremely rare and limited to those instances where no examination can be performed due to lack of an illustration of the invention resulting in a lack of understanding of the claimed subject matter.
2. Use a PTOL-90 or PTO-90C form as a cover sheet for this communication.

Applicant should also amend the specification accordingly to reference to the new illustration at the time of submission of the drawing(s). This may obviate further correspondence where an amendment places the application in condition for allowance.

V. DRAWING STANDARDS

37 CFR 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), auto-radiographs, 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 sec-

tion 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. There-

fore, 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. Reference 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 (l) 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.

Drawings on paper are acceptable as long as they are in compliance with 37 CFR 1.84. Corrections thereto must be made in the form of replacement sheets labeled, in the header, "Replacement Sheet" since the Office does not release drawings for correction. See 37 CFR 1.85.

Each drawing sheet submitted after the filing date of an application must be identified as either "Replacement Sheet" or "New Sheet" so that the Office will recognize how to treat such a drawing sheet for entry into the application. See 37 CFR 1.84(c). 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."

Good quality copies made on office copiers are acceptable if the lines are uniformly thick, black, and solid. Facsimile copies of drawings are acceptable if included with application papers mailed or hand-carried to the Office or if submitted at the time of payment of the issue fee (see "Payment of the Issue Fee and Filing Related Correspondence by Facsimile," 1254 O.G. 91 (January 15, 2002)). Applicants should ensure that the facsimile transmission process does not unreasonably degrade the quality of the drawings.

Drawings are currently accepted in two different size formats. It is, however, required that all drawing

sheets in a particular application be the same size for ease of handling and reproduction.

For examples of proper drawings, in addition to selected rules of practice related to patent drawings and interpretations of those rules, see the “Guide for the Preparation of Patent Drawings” which is available from the USPTO web site at www.uspto.gov.

For information regarding certified copies of an application-as-filed which does not meet the sheet size/margin and quality requirements of 37 CFR 1.52, 1.84(f), and 1.84(g), see MPEP § 608.01.

For design patent drawings, 37 CFR 1.152, see MPEP § 1503.02.

For plant patent drawings, 37 CFR 1.165, see MPEP § 1606.

For reissue application drawings, see MPEP § 1413.

For correction of drawings, see MPEP § 608.02(p). For prints, preparation and distribution, see MPEP § 508 and § 608.02(m). For prints, return of drawings, see MPEP § 608.02(y).

For amendment of drawings, see MPEP § 714.

For pencil notations of classification and name or initials of assistant examiner to be placed on drawings, see MPEP § 719.03.

The filing of a divisional or continuation application under the provisions of 37 CFR 1.53(b) (unexecuted application) does not obviate the need for acceptable drawings. See MPEP § 608.02(b).

See MPEP § 601.01(f) for treatment of applications filed without drawings and MPEP § 601.01(g) for treatment of applications filed without all figures of drawings.

VI. DEFINITIONS

A number of different terms are used when referring to drawings in patent applications. The following definitions are used in this Manual.

Original drawings: The drawing submitted with the application when filed.

Substitute drawing: A drawing filed later than the filing date of an application. Usually submitted to replace an original informal drawing.

Acceptable drawing: A drawing that is acceptable for publication of the application or issuance of the patent.

Corrected drawing: A drawing that includes corrections of informalities and changes approved by the examiner.

Informal drawing: A drawing which does not comply with the form requirements of 37 CFR 1.84. Drawings may be informal because they are not on the proper size sheets, the quality of the lines is poor, or for other reasons such as the size of reference elements. Informal drawings could be acceptable for the purposes of publication and examination. An objection will generally only be made to an informal drawing if the Office is unable to reproduce the drawing or the contents of the drawing are unacceptable to the examiner.

Drawing print: This term is used for the white paper print prepared by the Scanning Division of the Office of Patent Application Processing (OPAP) of original drawings in paper application files. The drawing prints contain the application number near the left-hand margin. Drawing prints should be placed on the top on the right-hand flap of the application file wrapper. A drawing print is not made for image file wrapper (IFW) applications. For IFW processing, see IFW Manual.

Interference print: This term is used to designate the copy prepared of the original drawings filed in file cabinets separate from the paper file wrappers and used to make interference searches. For IFW processing, see IFW Manual.

Plan: This term is used to illustrate the top view.

Elevation: This term is used to illustrate views showing the height of objects.

VII. BLACK AND WHITE PHOTOGRAPHS

37 CFR 1.84. Standards for drawings.

(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), auto- radiographs, 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.

Photographs or photomicrographs (not photolithographs or other reproductions of photographs made by using screens) printed on sensitized paper are acceptable as final drawings, in lieu of India ink drawings, to illustrate inventions which are incapable of being accurately or adequately depicted by India ink drawings, e.g., 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, metallurgical microstructures, textile fabrics, grain structures and ornamental effects. The photographs or photomicrographs must show the invention more clearly than they can be done by India ink drawings and otherwise comply with the rules concerning such drawings.

Black and white photographs submitted in lieu of ink drawings must comply with 37 CFR 1.84(b). There is no requirement for a petition or petition fee, and only one set of photographs is required. See 1213 O.G. 108 (Aug. 4, 1998) and 1211 O.G. 34 (June 9, 1998) and 37 CFR 1.84(b)(1).

Such photographs to be acceptable must be made on photographic paper having the following characteristics which are generally recognized in the photographic trade: double weight paper with a surface described as smooth with a white tint. Note that photographs filed on or after October 1, 2001 may no longer be mounted on Bristol Board. See 37 CFR 1.84(e) and 1246 O.G. 106 (May 22, 2001). If several photographs are used to make one sheet of drawings, the photographs must be contained (i.e., developed) on a single sheet.

See MPEP § 1503.02 for discussion of photographs used in design patent applications.

Photographs may be treated as artifacts and maintained in an artifact folder when the patent application is an IFW application since the photographs may not be able to be accurately reproduced by scanning.

VIII. COLOR DRAWINGS OR COLOR PHOTOGRAPHS

37 CFR 1.84. *Standards for drawings.*

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

(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.

(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.

Limited use of color drawings in utility patent applications is provided for in 37 CFR 1.84(a)(2) and (b)(2). Unless a petition is filed and granted, color drawings or color photographs will not be accepted in a utility or design patent application. The examiner must object to the color drawings or color photographs as being improper and require applicant either to cancel the drawings or to provide substitute black and white drawings.

Under 37 CFR 1.84(a)(2) and (b)(2), the applicant must file a petition with fee requesting acceptance of the color drawings or color photographs. Three sets of

color drawings or color photographs must also be submitted (37 CFR 1.84(a)(2)(ii)). The petition is decided by a Supervisory Patent Examiner. See MPEP § 1002.02(d).

If the application is an IFW application, the color photographs are maintained in an artifact folder.

Where color drawings or color photographs are filed in a continuing application, applicant must renew the petition under 37 CFR 1.84(a)(2) and (b)(2) even though a similar petition was filed in the prior application. Until the renewed petition is granted, the examiner must object to the color drawings or color photographs as being improper.

In light of the substantial administrative and economic burden associated with printing a utility patent with color drawings or color photographs, the patent copies which are printed at issuance of the patent will depict the drawings in black and white only. However, a set of color drawings or color photographs will be attached to the Letters Patent. Moreover, copies of the patent with color drawings or color photographs attached thereto will be provided by the U.S. Patent and Trademark Office upon special request and payment of the fee necessary to recover the actual costs associated therewith.

Accordingly, the petition must also be accompanied by a proposed amendment to insert the following language as the first paragraph in the portion of the specification containing a 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 U.S. Patent and Trademark Office upon request and payment of the necessary fee.

If color drawings or color photographs have been filed, but the required petition has not, form paragraph 6.24.01 may be used to notify applicant that a petition is needed.

¶ **6.24.01 Color Photographs and Color Drawings, Petition Required**

Color photographs and color drawings are not accepted unless a petition filed under 37 CFR 1.84(a)(2) is granted. Any such petition must be accompanied by the appropriate fee set forth in 37 CFR 1.17(h), three sets of color drawings or color photographs, as appropriate, and, unless already present, an amendment to include the following language as the first paragraph of the brief description of the drawings section of the specification:

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.

Color photographs will be accepted if the conditions for accepting color drawings and black and white photographs have been satisfied. See 37CFR 1.84(b)(2).

Examiner Note:

1. This form paragraph should be used only if the application contains color photographs or color drawings as the drawings required by 37 CFR 1.81.
2. Do not use this form paragraph for black and white photographs. Black and white photographs are permitted pursuant to 37 CFR 1.84(b).

It is anticipated that such a petition will be granted only when the U.S. Patent and Trademark Office has determined that a color drawing or color photograph is the only practical medium by which to disclose in a printed utility patent the subject matter to be patented.

It is emphasized that a decision to grant the petition should not be regarded as an indication that color drawings or color photographs are necessary to comply with a statutory requirement. In this latter respect, clearly it is desirable to file any desired color drawings or color photographs as part of the original application papers in order to avoid issues concerning statutory defects (e.g., lack of enablement under 35 U.S.C. 112 or new matter under 35 U.S.C. 132).

IX. DRAWING SYMBOLS

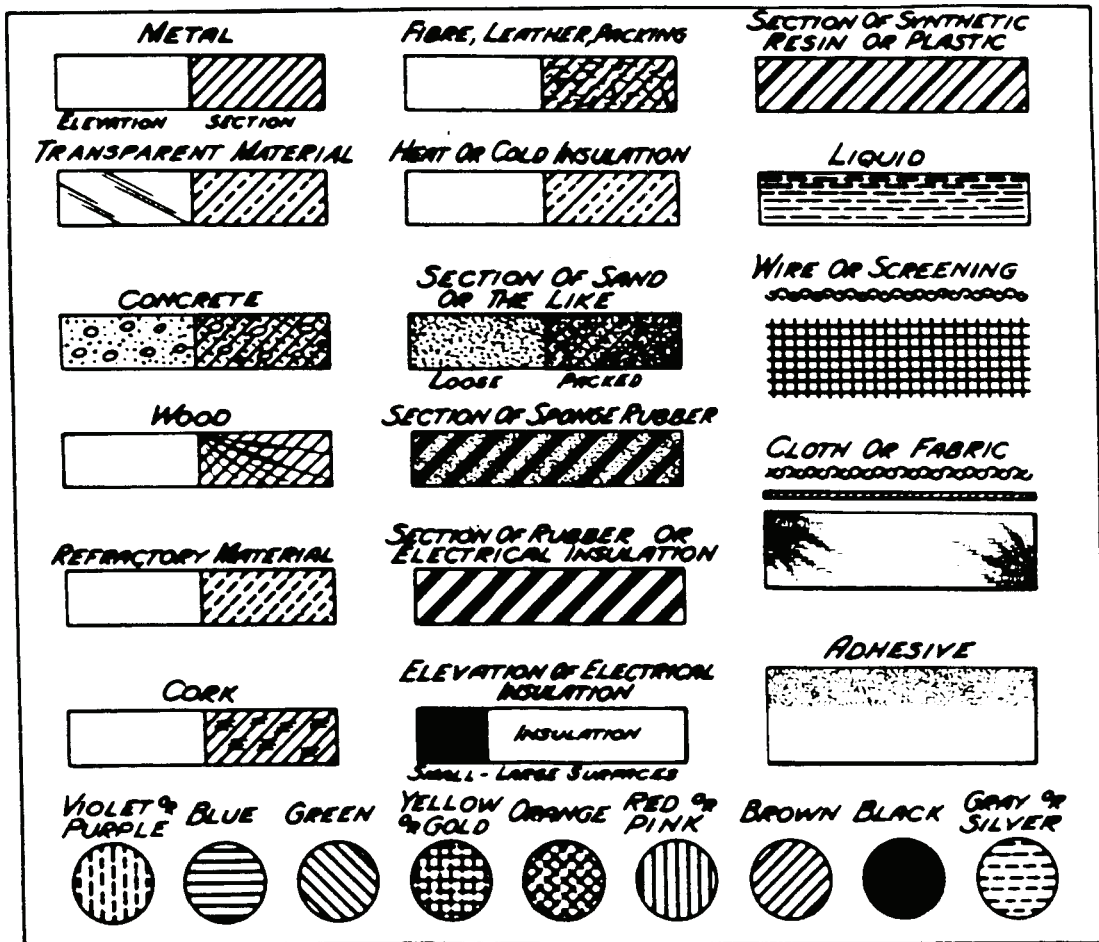
37 CFR 1.84(n) indicates that graphic drawing symbols and other labeled representations may be used for conventional elements where appropriate, subject to approval by the Office. Also, suitable legends may be used, or may be required, in proper cases. For examples of suitable symbols and legends, see the “Guide for the Preparation of Patent Drawings” available from the USPTO web site at www.uspto.gov.















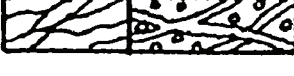

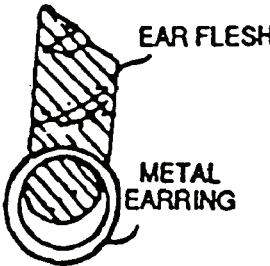



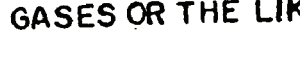
The American National Standards Institute (ANSI) is a private non-profit organization whose numerous publications include some that pertain to graphical symbols. Such publications, for examples, Graphic Symbols for Fluid Power Diagrams, IEEE Standard Graphic Symbols for Logic Functions, Graphic Symbols for Electrical and Electronics Diagrams, are considered to be generally acceptable in patent drawings. ANSI headquarters are at 1819 L Street, NW, Suite 600, Washington, DC 20036, with offices at 25 West

43rd Street, New York, NY 10036. The organization's Internet address is www.ansi.org. Although ANSI documents and other published sources may be used as guides during the selection of graphic symbols for patent drawings, the Office will not "approve" any published collection of symbols as a group because their use and clarity must be decided on a case-by-

case basis. Overly specific symbols should be avoided. Symbols with unclear meanings should be labeled for clarification.

The following symbols should be used to indicate various materials where the material is an important feature of the invention. The use of conventional features is very helpful in making prior art searches.



SUPER -CONDUCTOR 	TAR & PITCH 	EARTH 			
SEMI-CONDUCTOR 	PAPER 	FOAM-SYNTHETIC RESIN 			
PACKING ROPE & HEMP 	PROPELLENT POWDER 	MAGNET - COIL - ELECTRIC WINDING 			
SYNTHETIC SPONGE 	CARBON 	BIO CHEMICAL 			
FRICTION PADS 	CHEESE 	HUMAN VEINS 			
STIPPLE 	 EAR FLESH METAL EARRING	<table border="1"><tr><td>PHANTOM LINE - . . - . . -</td></tr><tr><td>PROJECTED LINE - . . - . . -</td></tr><tr><td>HIDDEN LINE - - - - -</td></tr></table>	PHANTOM LINE - . . - . . -	PROJECTED LINE - . . - . . -	HIDDEN LINE - - - - -
PHANTOM LINE - . . - . . -					
PROJECTED LINE - . . - . . -					
HIDDEN LINE - - - - -					
STIPPLE METAL HATCHING 	BLACK 				
CHEMICAL SOLUTIONS 	SOLID BLACK				
GASES OR THE LIKE 					

608.02(a) New Drawing — When Replacement is Required Before Examination [R-7]

See MPEP § 608.02 for the procedure to follow when drawings have not been filed, but a drawing will aid in the understanding of the invention. See MPEP § 601.01(f) for the procedure to follow when applications appear to be missing sheets of drawings. Drawings in utility and plant applications will be reviewed by the Office of Patent Application Processing (OPAP) for compliance with certain requirements of 37 CFR 1.84. OPAP will send a Notice to File Corrected Application Papers if the drawings are not acceptable for purposes of publication. The notice will give applicant a time period of 2 months from the mailing date of the notice to file acceptable drawings. This time period for reply is extendable under 37 CFR 1.136(a). OPAP will not release applications to the Technology Centers until acceptable drawings are filed in the applications.

If at the time of the initial assignment of an application to an examiner's docket, or if at the time the application is taken up for action, the supervisory patent examiner believes the drawings to be of such a condition as to not permit reasonable examination of the application, applicant should be required to immediately submit corrected drawings. However, if the drawings do permit reasonable examination and the supervisory patent examiner believes the drawings are of such a character as to render the application defective under 35 U.S.C. 112, examination should begin immediately with a requirement for corrected drawings and a rejection of the claims as not being in compliance with 35 U.S.C. 112, first paragraph, being made.

If the drawings have been indicated by the applicant as informal, but no objection has been made to the drawings by OPAP (drawings considered acceptable by OPAP, the examiner should not require replacement of the "informal" drawings with new drawings. If the examiner does make objections to the drawings, the examiner should require correction in reply to the Office action and not permit the objection to be held in abeyance. See MPEP § 608.02(b), § 608.02(d) - § 608.02(h) and § 608.02(p) for further information on specific grounds for finding drawings informalities.

UNTIMELY FILED DRAWINGS

If a drawing is not timely received in reply to a notice from the Office or a letter from the examiner who requires a drawing, the application becomes abandoned for failure to reply.

For the handling of additional, duplicate, or substitute drawings, see MPEP § 608.02(h).

608.02(b) Informal Drawings [R-7]

37 CFR 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).

In instances where the drawing is such that the prosecution can be carried on without the corrections, applicant is informed of the reasons why the drawing is objected to on Form PTO-948 or in an examiner's action, and that the drawing is admitted for examination purposes only (see MPEP § 707.07(a)). To be fully responsive, an amendment must include corrected drawings. See 37 CFR 1.85(c) and 37 CFR 1.121(d). The objection to the drawings will not be held in abeyance.

I. INFORMAL DRAWINGS

The Office no longer considers drawings as formal or informal. Drawings are either acceptable or not acceptable. Drawings will be accepted by the Office of Patent Application Processing (OPAP) if the

drawings are readable and reproducible for publication purposes. See MPEP § 507.

Examiners should review the drawings for disclosure of the claimed invention and for proper use of reference numerals. 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. 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 (37 CFR 1.135(c)). Drawing corrections should be made promptly before allowance of the application in order to avoid delays in issuance of the application as a patent or a reduction to any term adjustment. See 37 CFR 1.704(c)(10).

II. NOTIFYING APPLICANT

If the original drawings are not acceptable, a 2-part form, PTO-948, may be used to indicate what the objections are and that new corrected drawings are required. In either case, the drawings will be accepted as satisfying the requirements of 37 CFR 1.51. The examiners are directed to advise the applicants by way of form PTO-948 (see MPEP § 707.07(a)) in the first Office action of the reasons why the drawings are not acceptable. If the examiner discovers a defect in the content of the drawing, one or more of the form paragraphs reproduced below may be used to notify applicant.

¶ 6.21 *New Drawings, Competent Draftsperson*

New corrected drawings are required in this application because [1]. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

¶ 6.22 *Drawings Objected To*

The drawings are objected to because [1]. 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. 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. The objection to the drawings will not be held in abeyance.

Examiner Note:

1. In bracket 1, insert the reason for the objection, for example, --the drawings do not show every feature of the invention specified in the claims-- or --the unlabeled rectangular box(es) shown in the drawings should be provided with descriptive text labels--.
2. 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. See 37 CFR 1.85(a).
3. This form paragraph may be followed by form paragraph 6.27 to require a marked up copy of the amended drawing figure(s) including annotations indicating the changes made in the corrected drawings.

¶ 6.26 *Informal Drawings Do Not Permit Examination*

The informal drawings are not of sufficient quality to permit examination. Accordingly, replacement drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to this Office action. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. 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.

Applicant is given a TWO MONTH time period to submit new drawings in compliance with 37 CFR 1.81. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a). Failure to timely submit replacement drawing sheets will result in ABANDONMENT of the application.

Examiner Note:

1. Use of this form paragraph should be extremely rare and limited to those instances where no examination can be performed due to the poor quality of the drawings resulting in a lack of understanding of the claimed subject matter.
2. Use a PTOL-90 or PTO-90C form as a cover sheet for this communication.

¶ 6.27 *Requirement for Marked-up Copy of Drawing Corrections*

In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as “Annotated Sheet” and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the corrected drawing and marked-up copy will result in the abandonment of the application.

Examiner Note:

1. When this form paragraph is used by the examiner, the applicant must provide a marked-up copy of any amended drawing figure, including annotations indicating the changes made in the drawing replacement sheets. See 37 CFR 1.121(d)(2).
2. Applicants should be encouraged to submit corrected drawings before allowance in order to avoid having any term adjustment reduced pursuant to 37 CFR 1.704(c)(10).

III. HANDLING OF REPLACEMENT DRAWINGS

In those situations where an application is filed with unacceptable drawings, applicants will be notified by *OPAP to file new acceptable drawings complying with 37 CFR 1.84 and 1.121(d). If the requirement for corrected drawings appears on the notice of allowability (PTOL-37), the drawings must be filed within three months of the date of mailing of the notice of allowability. Also, each sheet of the drawing should include the application number and the art unit in the upper center margin (37 CFR 1.84(c)) and labeled, in the header, "Replacement Sheet." In the past, some drawings have been misdirected because the art unit indicated on the filing receipt was used rather than that indicated on the notice forms.

In utility applications, the examination will normally be conducted using the originally presented drawings. The sufficiency of disclosure, as concerns the subject matter claimed, will be made by the examiner utilizing the original drawings. IT IS APPLICANT'S RESPONSIBILITY TO SEE THAT NO NEW MATTER IS ADDED when submitting replacement drawings after allowance since they will not normally be reviewed by an examiner. Of course, if the examiner notices new matter in the replacement drawings, appropriate action to have the new matter deleted should be undertaken.

608.02(c) Drawing Print Kept in File Wrapper [R-2]

The drawing prints must always be kept on top of the papers on the right side of the file wrapper under any bibliographic data sheet >, if the application is maintained in paper. If the application is maintained in an image file wrapper (IFW) and the drawings are photographs or in color, the original photographs or

color drawings may be maintained in an artifact folder. For IFW processing, see IFW Manual<.

Applications may be sent to issue or to the Files Repository without the original drawing, if any, if the drawing cannot be located. For an application sent to issue with missing drawings, see MPEP § 608.02(z). For abandoned applications sent to the Files Repository, a notation should be made on the Contents portion of the file wrapper that the drawings were missing.

Upon initial processing, the original drawings are placed in the center portion of the application file wrapper under the specification >, if the application is maintained in paper,< and the executed oath or declaration by the Scanning Division.

608.02(d) Complete Illustration in Drawings [R-3]**37 CFR 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 possible 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).

Any structural detail that is of sufficient importance to be described should be shown in the drawing. (*Ex parte Good*, 1911 C.D. 43, 164 O.G. 739 (Comm'r Pat. 1911).)

Form paragraph 6.22.01, 6.22.04, or 6.36, where appropriate, may be used to require illustration.

**>

¶ 6.22.01 Drawings Objected To, Details Not Shown

The drawings are objected to under 37 CFR 1.83(a) because they fail to show [1] as described in the specification. Any struc-

tural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). 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. 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. The objection to the drawings will not be held in abeyance.

Examiner Note:

1. In bracket 1, identify the structural details not shown in the drawings.
2. 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. See 37 CFR 1.85(a).
3. This form paragraph may be followed by form paragraph 6.27 to require a marked up copy of the amended drawing figure(s) including annotations indicating the changes made in the corrected drawings.

¶ 6.22.04 Drawings Objected to, Incomplete

The drawings are objected to under 37 CFR 1.83(b) because they are incomplete. 37 CFR 1.83(b) reads as follows:

When the invention consists of an improvement on an old machine the drawing must when possible 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.

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. 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. The objection to the drawings will not be held in abeyance.

Examiner Note:

1. Supply a full explanation, if it is not readily apparent how the drawings are incomplete.
2. 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. See 37 CFR 1.85(a).
3. This form paragraph may be followed by form paragraph 6.27 to require a marked up copy of the amended drawing figure(s) including annotations indicating the changes made in the corrected drawings.

<

¶ 6.36 Drawings Do Not Show Claimed Subject Matter

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the [1] must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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. 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. The objection to the drawings will not be held in abeyance.

Examiner Note:

In bracket 1, insert the features that must be shown.

See also MPEP § 608.02.

608.02(e) Examiner Determines Completeness and Consistency of Drawings [R-3]

The examiner should see to it that the figures are correctly described in the brief description of the several views of the drawing section of the specification, that the reference characters are properly applied, that no single reference character is used for two different parts or for a given part and a modification of such part, and that there are no superfluous illustrations.

One or more of the following form paragraphs may be used to require correction.

**>

¶ 6.22.01 Drawings Objected To, Details Not Shown

The drawings are objected to under 37 CFR 1.83(a) because they fail to show [1] as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). 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. 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. The objection to the drawings will not be held in abeyance.

Examiner Note:

1. In bracket 1, identify the structural details not shown in the drawings.
2. 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. See 37 CFR 1.85(a).
3. This form paragraph may be followed by form paragraph 6.27 to require a marked up copy of the amended drawing figure(s) including annotations indicating the changes made in the corrected drawings.

¶ 6.22.03 Drawings Objected to, Different Parts Referred to by Same Number

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “[1]” has been used to designate both [2] and [3]. 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. 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. The objection to the drawings will not be held in abeyance.

Examiner Note:

1. In bracket 1, identify the number which refers to the different parts.
2. In brackets 2 and 3, identify the parts which are referred to by the same number.
3. 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. See 37 CFR 1.85(a).
4. This form paragraph may be followed by form paragraph 6.27 to require a marked up copy of the amended drawing figure(s) including annotations indicating the changes made in the corrected drawings.

¶ 6.22.06 Drawings Objected to, Reference Numbers Not in Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: [1]. 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. 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. The objection to the drawings will not be held in abeyance.

Examiner Note:

1. In bracket 1, specify the reference characters which are not found in the drawings, including the page and line number where they first occur in the specification.
2. This form paragraph may be modified to require or allow the applicant to delete the reference character(s) from the description instead of adding them to the drawing(s).
3. 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. See 37 CFR 1.85(a).

4. This form paragraph may be followed by form paragraph 6.27 to require a marked up copy of the amended drawing figure(s) including annotations indicating the changes made in the corrected drawings.

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¶ 6.22.07 Drawings Objected to, Reference Numbers Not in Specification

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: [1]. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) 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. 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. The objection to the drawings will not be held in abeyance.

Examiner Note:

1. In bracket 1, specify the reference characters which are not found in the specification, including the figure in which they occur.
2. 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. See 37 CFR 1.85(a).
3. This form paragraph may be followed by form paragraph 6.27 to require a marked up copy of the amended drawing figure(s) including annotations indicating the changes made in the corrected drawings.

608.02(f) Modifications in Drawings [R-3]

Modifications may not be shown in broken lines on figures which show in solid lines another form of the invention. *Ex parte Badger*, 1901 C.D. 195, 97 O.G. 1596 (Comm'r Pat. 1901).

All modifications described must be illustrated, or the text canceled. (*Ex parte Peck*, 1901 C.D. 136, 96 O.G. 2409 (Comm'r Pat. 1901).) This requirement does not apply to a mere reference to minor variations nor to well-known and conventional parts.

Form paragraph 6.22.05 may be used to require correction.

**>

¶ 6.22.05 Drawings Objected to, Modifications in Same Figure

The drawings are objected to under 37 CFR 1.84(h)(5) because Figure [1] show(s) modified forms of construction in the same view. 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. 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. The objection to the drawings will not be held in abeyance.

Examiner Note:

1. In bracket 1, insert the appropriate Figure number(s).
2. 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. See 37 CFR 1.85(a).
3. This form paragraph may be followed by form paragraph 6.27 to require a marked up copy of the amended drawing figure(s) including annotations indicating the changes made in the corrected drawings.

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608.02(g) Illustration of Prior Art [R-3]

Figures showing the prior art are usually unnecessary and should be canceled. *Ex parte Elliott*, 1904 C.D. 103, 109 O.G. 1337 (Comm'r Pat. 1904). However, where needed to understand applicant's invention, they may be retained if designated by a legend such as "Prior Art."

If the prior art figure is not labeled, form paragraph 6.36.01 may be used.

**>

¶ 6.36.01 Illustration of “Prior Art”

Figure [1] should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. 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. The objection to the drawings will not be held in abeyance.

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608.02(h) Replacement Drawings [R-3]

When an amendment is filed stating that replacement sheets of drawings are filed with the amendment and such drawings have not been transmitted to the Technology Center (TC), the technical support staff in the TC should attempt to locate the missing drawings. In the next communication of the examiner, the applicant is notified if the drawings have been received and whether or not the replacement drawings have been entered in the application. If the replacement drawings are not entered, the examiner should give the applicant a concise and complete explanation as to why the drawings were not entered.

Replacement drawings, together with the file wrapper, may be routed through the TC Draftsperson if the examiner would like the draftsperson’s assistance in identifying errors in the drawings. For Image File Wrapper (IFW) processing, see IFW Manual. The draftsperson will note any defects of the drawings on a PTO-948.

The examiner should not overlook such factors as new matter, the necessity for the replacement sheets and consistency with other sheets. The technical support staff will routinely enter all replacement sheets in the contents of the application. For IFW processing, see IFW Manual. If the examiner decides that the sheets should not be entered, the examiner should provide the applicant with the complete, explicit reasoning for the denial of entry. The entries made by the technical support staff will be marked “(N.E.)”

Form paragraph 6.37 may be used to acknowledge replacement drawing sheets.

**>

¶ 6.37 Acknowledgment of Replacement Drawing Sheets

The drawings were received on [1]. These drawings are [2].

Examiner Note:

1. In bracket 2, insert either --acceptable-- or --not acceptable--.
2. If not acceptable because of noncompliance with 37 CFR 1.121(d), an explanation must be provided. Form PTOL-324 may be used instead of this form paragraph to provide the explanation.
3. If not acceptable because of informalities noted on PTO-948, use form paragraph 6.43.

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Alternatively, PTOL-326 Office Action Summary includes a block for acknowledgment of replacement drawings.

For return of drawing, see MPEP § 608.02(y).

608.02(i) Transfer of Drawings From Prior Applications

Transfer of drawings from a first pending application to another will be made only upon the granting of a petition filed under 37 CFR 1.182 which must set forth a hardship situation requiring such transfer of drawings.

608.02(m) Drawing Prints [R-3]

Preparation and distribution of drawing prints is discussed in MPEP § 508.

Prints are made of acceptable drawings of an application maintained in paper. These prints are kept on top of the papers on the right side of the file wrapper under any bibliographic data sheet. See MPEP § 719.01(b). No drawing prints are made for an image file wrapper (IFW) application.

The original drawing, of course, should not be marked up by the examiner. Where, as in an electrical wiring application, it is desirable to identify the various circuits by different colors, or in any more or less complex application, it is advantageous to apply legends, arrows, or other indicia, the drawing prints may be used and retained unofficially in the file since the drawing prints are no longer needed for a record of the drawings as originally filed. If the application is maintained in paper, the drawing prints, as colored by the examiner, may be retained in the paper application

file. If the application is an IFW application, the drawing prints may be retained by the examiner.

Prints remain in the paper application file at all times except as provided in MPEP § 608.02(c).

**

608.02(n) Duplicate Prints in Patentability Report Applications

In patentability report cases having drawings, the examiner to whom the application is assigned should normally obtain a duplicate set of the interference prints of the drawing for filing in the Technology Center (TC) to which the application is referred.

When an application that has had patentability report prosecution is passed for issue or becomes abandoned, notification of this fact is given by the TC having jurisdiction of the case to each TC that submitted a patentability report. The examiner of each such reporting TC notes the date of allowance or abandonment on his or her duplicate set of prints. At such time as these prints become of no value to the reporting TC, they may be destroyed.

For patentability reports, see MPEP § 705 to § 705.01(f).

608.02(o) Notations Entered on Drawing [R-2]

**

>Drawings are no longer endorsed with an application number or receipt date.< A draftsman's "stamp" to indicate approval is no longer required on patent drawings, and these stamps are no longer used by draftsmen. If the drawings in an allowed application are not indicated as having been disapproved or canceled, the most-recently filed drawings will be used for printing the patent.

608.02(p) Correction of Drawings [R-3]

37 CFR 1.121. *Manner of making amendments in application.*

(d) **>Drawings: One or more application drawings shall be amended in the following manner: Any changes to an application drawing must be in compliance with § 1.84 and must be submitted on a replacement sheet of drawings which shall be an attachment to the amendment document and, in the top margin, labeled "Replacement Sheet". Any replacement sheet of drawings

shall include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is amended. Any new sheet of drawings containing an additional figure must be labeled in the top margin as "New Sheet". All changes to the drawings shall be explained, in detail, in either the drawing amendment or remarks section of the amendment paper.

(1) 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 Sheet" and must be presented in the amendment or remarks section that explains the change to the drawings.

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

37 CFR 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).<

**>See also< MPEP § 608.02(b). For correction at allowance and issue, see MPEP § 608.02(w) and MPEP § 1302.05.

A canceled figure may be reinstated. An amendment should be made to the specification adding the brief description of the view if a canceled figure is reinstated.

The following form paragraphs may be used to notify applicants of drawing corrections.

¶ 6.39 USPTO No Longer Makes Drawing Changes

The United States Patent and Trademark Office no longer makes drawing changes. See 1017 O.G. 4. It is applicant's responsibility to ensure that the drawings are corrected. Corrections must be made in accordance with the instructions below.

Examiner Note:

This form paragraph is to be used whenever the applicant has filed a request for the Office to make drawing changes. Form paragraph 6.40 must follow.

**>

¶ 6.40 *Information on How To Effect Drawing Changes***INFORMATION ON HOW TO EFFECT DRAWING CHANGES****Replacement Drawing Sheets**

Drawing changes must be made by presenting replacement sheets which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments section, or remarks, section of the amendment paper. 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). A replacement sheet must 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 the amended drawing(s) must not be labeled as “amended.” If the changes to the drawing figure(s) are not accepted by the examiner, applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless applicant is notified.

Identifying indicia, 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 and within the top margin.

Annotated Drawing Sheets

A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be submitted or required by the examiner. The annotated drawing sheets must be clearly labeled as “Annotated Sheet” and must be presented in the amendment or remarks section that explains the change(s) to the drawings.

Timing of Corrections

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.85(a). Failure to take corrective action within the set period will result in ABANDONMENT of the application.

If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings MUST be filed within the THREE MONTH shortened statutory period set for reply in the “Notice of Allowability.” Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability.

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¶ 6.41 *Reminder That USPTO No Longer Makes Drawing Changes*

Applicant is reminded that the U.S. Patent and Trademark Office no longer makes drawing changes and that it is applicant’s

responsibility to ensure that the drawings are corrected in accordance with the instructions set forth in the paper mailed on [1].

Examiner Note:

This form paragraph is to be used when the applicant has been previously provided with information on how to effect drawing changes (i.e., either by way of form paragraph 6.40 or a PTO-948 has been previously sent).

¶ 6.42 *Reminder That Applicant Must Make Drawing Changes*

Applicant is reminded that in order to avoid an abandonment of this application, the drawings must be corrected in accordance with the instructions set forth in the paper mailed on [1].

Examiner Note:

This form paragraph is to be used when allowing the application and when applicant has previously been provided with information on how to effect drawing changes (i.e., by way of form paragraph 6.40 or a PTO-948 has been previously sent).

¶ 6.43 *Drawings Contain Informalities, Application Allowed*

The drawings filed on [1] are acceptable subject to correction of the informalities indicated on the attached “Notice of Draftsman’s Patent Drawing Review,” PTO-948. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

Examiner Note:

Use this form paragraph when allowing the application, particularly at time of first action issue. Form paragraph 6.40 or 6.41 must follow.

¶ 6.47 *Examiner’s Amendment Involving Drawing Changes*

The following changes to the drawings have been approved by the examiner and agreed upon by applicant: [1]. In order to avoid abandonment of the application, applicant must make these agreed upon drawing changes.

Examiner Note:

1. In bracket 1, insert the agreed upon drawing changes.
2. Form paragraphs 6.39 and 6.40 should follow, as appropriate.

608.02(q) Conditions Precedent to Amendment of Drawing

See MPEP § 507 for changes to the patent drawings for purposes of a patent application publication.

If applicant wishes to amend the original drawings, at his or her own initiative, applicant is encouraged to submit new drawings as soon as possible, and preferably before allowance of the application.

608.02(t) Cancellation of Figures [R-2]

**>If a drawing figure is canceled, a replacement sheet of drawings must be submitted without the figure (see 37 CFR 1.121(d)). If the canceled drawing figure was the only drawing on the sheet, then only a marked-up copy of the drawing sheet including an annotation showing that the drawing has been cancelled is required. The marked-up (annotated) copy must be clearly labeled as 'Annotated Sheet' and must be presented in the amendment or remarks section of the amendment document which explains the changes to the drawings (see 37 CFR 1.121(d)(1)). The brief description of the drawings should also be amended to reflect this change.<

608.02(v) Drawing Changes Which Require Annotated Sheets [R-2]

When changes are to be made in the drawing itself, other than mere changes in reference characters, designations of figures, or inking over lines pale and rough, **>a marked-up copy of the drawing should be filed with a replacement drawing. >The marked-up copy must be clearly labeled as "Annotated Sheet." See 37 CFR 1.84(c) and 1.121(d).< Ordinarily, broken lines may be changed to full without a sketch.

Annotated sheets filed by an applicant and used for correction of the drawing will not be returned. All such annotated sheets must be in ink or permanent prints.

608.02(w) Drawing Changes Which May Be Made Without Applicant's *>Annotated Sheets< [R-2]

Where an application is ready for issue except for a slight defect in the drawing not involving change in structure, the examiner will prepare a letter to the applicant indicating the change to be made and **>include a marked-up copy of< the drawing >showing< the addition or alteration to be made. The marked-up copy of the drawing should be attached to the letter to the applicant >and a copy placed in the application file.<

The correction must be made at applicant's expense.

As a guide to the examiner, the following corrections are illustrative of those that may be made by **>an annotated sheet<:

(A) Adding two or three reference characters or exponents.

(B) Changing one or two numerals or figure ordinals. *Garrett v. Cox*, 233 F.2d 343, 346, 110 USPQ 52, 54 (CCPA 1956).

(C) Removing superfluous matter.

(D) Adding or reversing directional arrows.

(E) Changing Roman Numerals to Arabic Numerals to agree with specification.

(F) Adding section lines or brackets, where easily executed.

(G) Changing lead lines.

(H) Correcting misspelled legends.

608.02(x) ** Drawing Corrections >or Changes Accepted Unless Notified Otherwise< [R-2]

**>Drawing corrections or changes will be entered at the time they are presented, unless applicant is notified to the contrary by the examiner in the action following the amended drawing submission.<

CORRECTION **>OR CHANGE NOT ACCEPTED<

Where the **>corrected or changed drawing is not accepted<, for example, because the *>submitted corrections or< changes are erroneous, or involve new matter or ** do not include all necessary corrections, the >applicant will be notified and informed of any required corrective action in the next Office action. The <examiner should explicitly and clearly set forth all the reasons for not approving the corrections to the drawings in the next communication to the applicant. See MPEP § 608.02(p) for suggested form paragraphs that may be used by examiners to notify applicants of drawing corrections.

608.02(y) Return of Drawing [R-2]

**>Drawings< will not be returned to the applicant.

608.02(z) Allowable Applications Needing Drawing Corrections or Corrected Drawings [R-7]

If an application is being allowed, and corrected drawings have not been filed, form PTOL-37 provides an appropriate check box for requiring corrected drawings.

Allowable applications with drawings that were indicated by the applicant to be informal should be turned in for counting and forwarding to the **>Office of Data Management< without the drawings having been corrected. Examiners should not require new drawings merely because the applicant indicated that the drawings submitted on filing were informal. If at allowance, the examiner determines that correction is required, the drawings requiring correction should be placed as the top papers in the center fold of the file wrapper, if the application is maintained in paper. For Image File Wrapper (IFW) processing, see IFW Manual. A proposed drawing correction, for example a drawing sheet with corrections marked in pencil, should be stapled to the right outside flap of the file wrapper over the area having the search information. Care should be taken to make certain that the corrections have been approved by the examiner. Such approval should be made by the examiner prior to counting the allowance of the application by writing "Approved," the examiner's initials or full name, and the date, on the front page of the proposed drawing corrections. In IFW applications, generally, the most recently filed drawings will be used for printing, unless they have been indicated as "Not Entered."

Extensions of time to provide acceptable drawings after the mailing of a notice of allowability are no longer permitted. If the Office of *>Data Management< receives drawings that cannot be scanned or are otherwise unacceptable for publication, the Office of *>Data Management< will mail a requirement for corrected drawings, giving applicant a shortened statutory period of two months (with no extensions of time permitted) to reply. The drawings will ordinarily not be returned to the examiner for corrections.

I. APPLICATIONS HAVING LOST DRAWINGS

A replacement drawing should be obtained from the Office of **>Patent Application Processing's< records of the application as originally filed. If the reproduced drawings are not acceptable for publishing, applicant should be required to submit corrected drawings.

The Notice of Allowability is verified and printed using PALM, and the Notice is mailed to the applicant.

The application is then forwarded to Licensing and Review or the **>Office of Data Management<, as appropriate, using the PALM transaction code after the application has been revised for issue.

II. UTILITY PATENT APPLICATIONS RECEIVING FORMAL DRAWINGS AFTER THE NOTICE OF ALLOWABILITY

Where replacement drawings are received in utility patent applications examined with informal drawings and the Notice of Allowability was mailed prior to the receipt of the replacement drawings, the technical support staff should forward the replacement drawings to the **>Office of Data Management<. Submission to the examiner is not necessary unless an amendment accompanies the drawings which changes the specification, such as where the description of figures is added or canceled.

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III. ** 37 CFR 1.312 AMENDMENTS

For information on handling amendments to drawings filed under 37 CFR 1.312, see MPEP § 714.16.

608.03 Models, Exhibits, Specimens [R-3]

35 U.S.C. 114. Models, specimens.

The Director may require the applicant to furnish a model of convenient size to exhibit advantageously the several parts of his invention.

When the invention relates to a composition of matter, the Director may require the applicant to furnish specimens or ingredients for the purpose of inspection or experiment.

37 CFR 1.91. Models or exhibits not generally admitted as part of application or patent.

(a) A model or exhibit will not be admitted as part of the record of an application unless it:

(1) Substantially conforms to the requirements of § 1.52 or § 1.84;

(2) Is specifically required by the Office; or

(3) Is filed with a petition under this section including:

(i) The fee set forth in § 1.17(h); and

(ii) An explanation of why entry of the model or exhibit in the file record is necessary to demonstrate patentability.

(b) Notwithstanding the provisions of paragraph (a) of this section, a model, working model, or other physical exhibit may be required by the Office if deemed necessary for any purpose in examination of the application.

(c) Unless the model or exhibit substantially conforms to the requirements of § 1.52 or § 1.84 under paragraph (a)(1) of this section, it must be accompanied by photographs that show multiple views of the material features of the model or exhibit and that substantially conform to the requirements of § 1.84.

Models or exhibits are generally not admitted as part of an application or patent unless the requirements of 37 CFR 1.91 are satisfied.

With the exception of cases involving perpetual motion, a model is not ordinarily required by the Office to demonstrate the operability of a device. If operability of a device is questioned, the applicant must establish it to the satisfaction of the examiner, but he or she may choose his or her own way of so doing.

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>Models or exhibits that are required by the Office or filed with a petition under 37 CFR 1.91(a)(3) must be accompanied by photographs that (A) show multiple views of the material features of the model or exhibit, and (B) substantially conform to the requirements of 37 CFR 1.84. See 37 CFR 1.91(c). Material features are considered to be those features which represent that portion(s) of the model or exhibit forming the basis for which the model or exhibit has been submitted. Where a video or DVD or similar item is submitted as a model or exhibit, applicant must submit photographs of what is depicted in the video or DVD (the content of the material such as a still image single frame of a movie) and not a photograph of a video cassette, DVD disc or compact disc.<

37 CFR 1.93. Specimens.

When the invention relates to a composition of matter, the applicant may be required to furnish specimens of the composition, or of its ingredients or intermediates, for the purpose of inspection or experiment.

See MPEP Chapter 2400 regarding treatment of biotechnology deposits.

608.03(a) Handling of Models, Exhibits, and Specimens [R-3]

All models and exhibits received in the U.S. Patent and Trademark Office should be taken to the Technology Center (TC) assigned the related application for examination. The receipt of all models and exhibits which are to be entered into the application file record must be properly recorded on the "Contents" portion of the application file wrapper or, if the application is an Image File Wrapper (IFW) application, on an artifact sheet. For IFW processing, see IFW Manual section 3.6.

A label indicating the application number, filing date, and attorney's name and address should be attached to the model or exhibit so that it is clearly identified and easily returned**. The Office may return the model, exhibit, or specimen, at any time once it is no longer necessary for the conduct of business before the Office and return of the model or exhibit is appropriate.< See 37 CFR 1.94.

If the model or exhibit cannot be conveniently stored within the application file wrapper or in an artifact folder, it should not be accepted.

Models and exhibits may be presented for demonstration purposes during an interview. The models and exhibits should be taken away by applicant or his/her attorney or agent at the conclusion of the interview since models or exhibits are generally not permitted to be admitted as part of the application or patent unless the requirements of 37 CFR 1.91 are satisfied. See MPEP § 713.08. A full description of what was demonstrated or exhibited during the interview must be made of record. See 37 CFR 1.133. Any model or exhibit that is left with the examiner at the conclusion of the interview, which is not made part of the application or patent, may be disposed of at the discretion of the Office.

37 CFR 1.94. Return of models, exhibits or specimens.

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(a) Models, exhibits, or specimens may be returned to the applicant if no longer necessary for the conduct of business before the Office. When applicant is notified that a model, exhibit, or specimen is no longer necessary for the conduct of business before the Office and will be returned, applicant must arrange for the return of the model, exhibit, or specimen at the applicant's expense. The Office will dispose of perishables without notice to applicant unless applicant notifies the Office upon submission of the model, exhibit or specimen that a return is desired and makes arrangements for its return promptly upon notification by the

Office that the model, exhibit or specimen is no longer necessary for the conduct of business before the Office.

(b) Applicant is responsible for retaining the actual model, exhibit, or specimen for the enforceable life of any patent resulting from the application. The provisions of this paragraph do not apply to a model or exhibit that substantially conforms to the requirements of § 1.52 or § 1.84, where the model or exhibit has been described by photographs that substantially conform to § 1.84, or where the model, exhibit or specimen is perishable.

(c) Where applicant is notified, pursuant to paragraph (a) of this section, of the need to arrange for return of a model, exhibit or specimen, applicant must arrange for the return within the period set in such notice, to avoid disposal of the model, exhibit or specimen by the Office. Extensions of time are available under § 1.136, except in the case of perishables. Failure to establish that the return of the item has been arranged for within the period set or failure to have the item removed from Office storage within a reasonable amount of time notwithstanding any arrangement for return, will permit the Office to dispose of the model, exhibit or specimen.<

****>**When applicant is notified that a model, exhibit, or specimen is no longer necessary for the conduct of business before the Office and will be returned, applicant must make arrangements for the return of the model, exhibit, or specimen at applicant's expense. The Office may return the model, exhibit, or specimen at any time once it is no longer necessary for the conduct of business and need not wait until the close of prosecution or later. Where the model, exhibit, or specimen is a perishable, the Office will be presumed to have permission to dispose of the item without notice to applicant, unless applicant notifies the Office upon submission of the item that a return is desired and arrangements are promptly made for the item's return upon notification by the Office.

For models, exhibits, or specimens that are returned, applicant is responsible for retaining the actual model, exhibit, or specimen for the enforceable life of any patent resulting from the application except where: (A) the model or exhibit substantially conforms to the requirements of 37 CFR 1.52 or 1.84; (B) the model or exhibit has been described by photographs that substantially conform to 37 CFR 1.84; or (C) the model, exhibit, or specimen is perishable. Applicant may be called upon to resubmit such returned model, exhibit, or specimen under appropriate circumstances, such as where a continuing application is filed.

The notification to applicant that a model, exhibit, or specimen is no longer necessary for the conduct of business before the Office will set a time period

within which applicant must make arrangements for a return of a model, exhibit, or specimen. The time period is normally one month from the mailing date of the notification, unless the item is perishable, in which case the time period will be shorter. Extensions of time are available under 37 CFR 1.136, except in the case of perishables. Failure by applicant to establish that arrangements for the return of a model, exhibit, or specimen have been made within the time period set in the notice will result in the disposal of the model, exhibit, or specimen by the Office.

Form paragraph 6.48 may be used to notify applicant that the model, exhibit, or specimen is no longer necessary for the conduct of business before the Office and that applicant must make arrangement for the return of the model, exhibit, or specimen.<

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¶ 6.48 Model, Exhibit, or Specimen - Applicant Must Make Arrangements for Return

The [1] is no longer necessary for the conduct of business before the Office. Applicant must arrange for the return of the model, exhibit or specimen at the applicant's expense in accordance with 37 CFR 1.94(a).

Applicant is given ONE MONTH or THIRTY DAYS, whichever is longer, from the mailing date of this letter to make arrangements for return of the above-identified model, exhibit, or specimen to avoid its disposal in accordance with 37 CFR 1.94(c). Extensions of time are available under 37 CFR 1.136, except in the case of perishables.

Applicant is responsible for retaining the actual model, exhibit, or specimen for the enforceable life of any patent resulting from the application unless one of the exceptions set forth in 37 CFR 1.94(b) applies.

Examiner Note:

1. In bracket 1, identify the model, exhibit, or specimen that is no longer needed by the Office.
2. The Office will dispose of **perishables** without notice to Applicant unless applicant notifies the Office upon submission of the model, exhibit or specimen that a return is desired and makes arrangements for its return promptly upon notification by the Office that the model, exhibit or specimen is no longer necessary for the conduct of business before the Office.

For plant specimens, see MPEP § 1607 and 37 CFR 1.166.

37 CFR 1.95. Copies of exhibits.

Copies of models or other physical exhibits will not ordinarily be furnished by the Office, and any model or exhibit in an application or patent shall not be taken from the Office except in the custody of an employee of the Office specially authorized by the Director.

608.04 New Matter

37 CFR 1.121. Manner of making amendments in applications.

(f) *No new matter.* No amendment may introduce new matter into the disclosure of an application.

In establishing a disclosure, applicant may rely not only on the specification and drawing as filed but also on the original claims if their content justifies it. See MPEP § 608.01(l).

While amendments to the specification and claims involving new matter are ordinarily entered, such matter is required to be canceled from the descriptive portion of the specification, and the claims affected are rejected under 35 U.S.C. 112, first paragraph.

When new matter is introduced into the specification, the amendment should be objected to under 35 U.S.C. 132 (35 U.S.C. 251 if a reissue application) and a requirement made to cancel the new matter. The subject matter which is considered to be new matter must be clearly identified by the examiner. If the new matter has been entered into the claims or affects the scope of the claims, the claims affected should be rejected under 35 U.S.C. 112, first paragraph, because the new matter is not described in the application as originally filed.

A “new matter” amendment of the drawing is ordinarily not entered; neither is an additional or substitute sheet containing “new matter” even though provisionally entered by the TC technical support staff. See MPEP § 608.02(h).

The examiner’s holding of new matter may be petitionable or appealable. See MPEP § 608.04(c).

For new matter in reissue application, see MPEP § 1411.02. For new matter in substitute specification, see MPEP § 608.01(q).

Note: No amendment is permitted in a provisional application after it receives a filing date.

608.04(a) Matter Not in Original Specification, Claims, or Drawings

Matter not in the original specification, claims, or drawings is usually new matter. Depending on circumstances such as the adequacy of the original disclosure, the addition of inherent characteristics such

as chemical or physical properties, a new structural formula or a new use may be new matter. See *Ex parte Vander Wal*, 109 USPQ 119, 1956 C.D. 11, 705 O.G. 5 (Bd. App. 1955) (physical properties), *Ex parte Fox*, 128 USPQ 157, 1960 C.D. 28, 761 O.G. 906 (Bd. App. 1957) (new formula) and *Ex parte Ayers*, 108 USPQ 444 (Bd. App. 1955) (new use). For rejection of claim involving new matter, see MPEP § 706.03(o).

For completeness of disclosure, see MPEP § 608.01(p). For trademarks and tradenames, see MPEP § 608.01(v).

608.04(b) New Matter by Preliminary Amendment [R-3]

**>A preliminary amendment present on the filing date of the application (e.g., filed along with the filing of the application) is considered a part of the original disclosure. See MPEP § 714.01(e) and § 602. A preliminary amendment filed after the filing date of the application is not part of the original disclosure of the application. See MPEP § 706.03(o). For applications filed on or after September 21, 2004, the Office will automatically treat any preliminary amendment under 37 CFR 1.115(a)(1) that is present on the filing date of the application as part of the original disclosure. If a preliminary amendment is present on the filing date of an application, and the oath or declaration under 37 CFR 1.63 does not also refer to the preliminary amendment, the normal operating procedure is to not screen the preliminary amendment to determine whether it contains subject matter not otherwise included in the specification or drawings of the application as filed (i.e., subject matter that is “new matter” relative to the specification and drawings of the application). As a result, it is applicant’s obligation to review the preliminary amendment to ensure that it does not contain subject matter not otherwise included in the specification or drawings of the application as filed. If the preliminary amendment contains subject matter not otherwise included in the specification and drawings of the application, applicant must provide a supplemental oath or declaration under 37 CFR 1.67 referring to such preliminary amendment. The failure to submit a supplemental oath or declaration under 37 CFR 1.67 referring to a preliminary amendment that contains subject matter not otherwise included in the specification or drawings of the appli-