

Patent Laws and Regulations

(c) If an application filed pursuant to paragraph (b) of this section is incomplete for reasons other than those specified in paragraph (d) of this section, applicant will be notified and given a time period within which to complete the application in order to obtain a filing date as of the date of filing the omitted item provided the omitted item is filed before the patenting or abandonment of or termination of proceedings on the prior application. If the omission is not corrected within the time period set, the application will be returned or otherwise disposed of; the fee, if submitted, will be refunded less the handling fee set forth in w1.21(n).

(d) If an application filed pursuant to paragraph (b) of this section is otherwise complete, but does not include the appropriate filing fee or a true copy of the oath or declaration from the prior complete application, showing the signature or an indication it was signed, a filing date will be granted and applicant will be so notified and given a period of time within which to file the fee, or the true copy of the oath or declaration and to pay the surcharge as set forth in § 1.16(e) in order to prevent abandonment of the application. The notification pursuant to this paragraph may be made simultaneously with any notification pursuant to paragraph(c) of this section.

[48 FR 2710, Jan. 20, 1983, effective Feb. 27, 1983; 49 FR 554, Jan. 4, 1984, effective Apr. 1, 1984; 50 FR 9379, Mar. 7, 1985, effective May 8, 1985; paras. (a), (b) and (c), 54 FR 47519, Nov. 15, 1989, effective Jan. 16, 1990; paras. (b) and (c) revised, para. (d) added, 57 FR 56446, Nov. 30, 1992, effective Jan. 4, 1993; para. (b) revised, 60 FR 20195, Apr. 25, 1995, effective June 8, 1995]

37 CFR 1.61 [Reserved]

[52 FR 20046, May 28, 1987, effective July 1, 1987]

37 CFR 1.62 File wrapper continuing procedure.

(a) A continuation, continuation-in-part, or divisional application, which uses the specification, drawings and oath or declaration from a prior nonprovisional application which is complete as defined by § 1.51(a)(1), and which is to be abandoned, may be filed under this section before the payment of the issue fee, abandonment of, or termination of proceedings on the prior application, or after payment of the issue fee if a petition under § 1.313(b)(5) is granted in the prior application. The filing date of an application filed under this section is the date on which a request is filed for an application under this section including identification of the application number and the names of the inventors named in the prior complete application. If the continuation, continuation-in-part, or divisional application is filed by less than all the inventors named in the prior application a statement must accompany the application when filed requesting deletion of the names of the person or persons who are not inventors of the invention being claimed in the continuation, continuation-in-part, or divisional application.

(b) The filing fee for a continuation, continuation-in-part, or divisional application under this section is based on the number of claims remaining in the application after entry of any preliminary amendment and entry of any amendments under § 1.116 unentered in the prior application which applicant has requested to be entered in the continuing application.

(c) In the case of a continuation-in-part application which adds and claims additional disclosure by amendment, an oath or declaration as required by § 1.63 must also be filed. In those situations where a new oath or declaration is required due to additional subject matter being claimed, additional inventors may be named in the continuing application. In a continuation or divisional application which discloses and claims only subject matter disclosed in a prior application, no additional oath or declaration is required and the application must name as inventors the same or less than all the inventors named in the prior application.

(d) If an application which has been accorded a filing date pursuant to paragraph (a) of this section does not include the appropriate basic filing fee pursuant to paragraph (b) of this section, or an oath or declaration by the applicant in the case of a continuation-in-part application pursuant to paragraph (c) of this section, applicant will be so notified and given a period of time within which to file the fee, oath, or declaration and to pay the surcharge as set forth in § 1.16(e) in order to prevent abandonment of the application. The notification pursuant to this paragraph may be made simultaneously with any notification of a defect pursuant to paragraph(a) of this section.

(e) An application filed under this section will utilize the file wrapper and contents of the prior

Patent Laws and Regulations

application to constitute the new continuation, continuation-in-part, or divisional application but will be assigned a new application number. Changes to the prior application must be made in the form of an amendment to the prior application as it exists at the time of filing the application under this section. No copy of the prior application or new specification is required. The filing of such a copy or specification will be considered improper, and a filing date as of the date of deposit of the request for an application under this section will not be granted to the application unless a petition with the fee set forth in § 1.17(i) is filed with instructions to cancel the copy or specification.

(f) The filing of an application under this section will be construed to include a waiver of secrecy by the applicant under 35 U.S.C. 122 to the extent that any member of the public who is entitled under the provisions of 37 CFR 1.14 to access to, or information concerning either the prior application or any continuing application filed under the provisions of this section may be given similar access to, or similar information concerning, the other application(s) in the file wrapper.

(g) The filing of a request for a continuing application under this section will be considered to be a request to expressly abandon the prior application as of the filing date granted the continuing application.

(h) The applicant is urged to furnish the following information relating to the prior and continuing applications to the best of his or her ability:

- (1) Title as originally filed and as last amended;
- (2) Name of applicant as originally filed and as last amended;
- (3) Current correspondence address of applicant;
- (4) Identification of prior foreign application and any priority claim under 35 U.S.C. 119.
- (5) The title of the invention and names of applicants to be named in the continuing application.

(i) Envelopes containing only application papers and fees for filing under this section should be marked "Box FWC".

(j) If any application filed under this section is found to be improper, the applicant will be notified and given a time period within which to correct the filing error in order to obtain a filing date as of the date the filing error is corrected provided the correction is made before the payment of the issue fee, abandonment of, or termination of proceedings on the prior application. If the filing error is not corrected within the time period set, the application will be returned or otherwise disposed of; the fee, if submitted, will be refunded less the handling fee set forth in w1.21(n).

[47 FR 47244, Oct. 25, 1982, added effective Feb. 27, 1983; 48 FR 2710, Jan. 20, 1983, effective date Feb. 27, 1983; paras. (a) and (d), 49 FR 555, Jan. 4, 1984, effective Apr. 1, 1984; paras. (a), (c), and (h), 50 FR 9380, Mar. 7, 1985, effective May 8, 1985; paras. (e) and (j), 54 FR 47519, Nov. 15, 1989, effective Jan. 16, 1990; paras. (a) and (e) revised, 60 FR 20195, Apr. 25, 1995, effective June 8, 1995]

OATH OR DECLARATION

37 CFR 1.63 Oath or declaration.

(a) An oath or declaration filed under § 1.51(a)(1)(ii) as a part of a nonprovisional application must:

- (1) Be executed in accordance with either § 1.66 or § 1.68;
- (2) Identify the specification to which it is directed;
- (3) Identify each inventor and the residence and country of citizenship of each inventor; and
- (4) State whether the inventor is a sole or joint inventor of the invention claimed.

(b) In addition to meeting the requirements of paragraph (a), the oath or declaration must state that the person making the oath or declaration:

Patent Laws and Regulations

- (1) Has reviewed and understands the contents of the specification, including the claims, as amended by any amendment specifically referred to in the oath or declaration;
- (2) Believes the named inventor or inventors to be the original and first inventor or inventors of the subject matter which is claimed and for which a patent is sought; and
- (3) Acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in § 1.56.

(c) In addition to meeting the requirements of paragraphs (a) and (b) of this section, the oath or declaration in any application in which a claim for foreign priority is made pursuant to § 1.55 must identify the foreign application for patent or inventor's certificate on which priority is claimed and any foreign application having a filing date before that of the application on which priority is claimed, by specifying the application number, country, day, month, and year of its filing.

(d) In any continuation-in-part application filed under the conditions specified in 35 U.S.C. 120 which discloses and claims subject matter in addition to that disclosed in the prior copending application, the oath or declaration must also state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

[48 FR 2711, Jan. 20, 1983, added effective Feb. 27, 1983; 48 FR 4285, Jan. 31, 1983; paras. (b)(3) and (d), 57 FR 2021, Jan. 17, 1992, effective Mar. 16, 1992; para. (a) revised, 60 FR 20195, Apr. 25, 1995, effective June 8, 1995]

37 CFR 1.64 Person making oath or declaration.

(a) The oath or declaration must be made by all of the actual inventors except as provided for in §§ 1.42, 1.43, or 1.47.

(b) If the person making the oath or declaration is not the inventor (§§ 1.42, 1.43, or 1.47), the oath or declaration shall state the relationship of the person to the inventor and, upon information and belief, the facts which the inventor is required to state.

[48 FR 2711, Jan. 20, 1983, added effective Feb. 27, 1983]

37 CFR 1.66 Officers authorized to administer oaths.

(a) The oath or affirmation may be made before any person within the United States authorized by law to administer oaths. An oath made in a foreign country may be made before any diplomatic or consular officer of the United States authorized to administer oaths, or before any officer having an official seal and authorized to administer oaths in the foreign country in which the applicant may be, whose authority shall be proved by a certificate of a diplomatic or consular officer of the United States, or by an apostille of an official designated by a foreign country which, by treaty or convention, accords like effect to apostilles of designated officials in the United States. The oath shall be attested in all cases in this and other countries, by the proper official seal of the officer before whom the oath or affirmation is made. Such oath or affirmation shall be valid as to execution if it complies with the laws of the State or country where made. When the person before whom the oath or affirmation is made in this country is not provided with a seal, his official character shall be established by competent evidence, as by a certificate from a clerk of a court of record or other proper officer having a seal.

(b) When the oath is taken before an officer in a country foreign to the United States, any accompanying application papers, except the drawings, must be attached together with the oath and a ribbon passed one or more times through all the sheets of the application, except the drawings, and the ends of said ribbon brought together under the seal before the latter is affixed and impressed, or each sheet must be impressed with the official seal of the officer before whom the oath is taken. If the papers as filed are not properly ribboned or each sheet impressed with the seal, the case will be accepted for examination, but before it is allowed, duplicate papers, prepared in compliance with the foregoing sentence, must be filed.

[47 FR 41275, Sept. 17, 1982, effective Oct. 1, 1982]

Patent Laws and Regulations

37 CFR 1.67 Supplemental oath or declaration.

(a) A supplemental oath or declaration meeting the requirements of § 1.63 may be required to be filed to correct any deficiencies or inaccuracies present in an earlier filed oath or declaration.

(b) A supplemental oath or declaration meeting the requirements of § 1.63 must be filed when a claim is presented for matter originally shown or described but not substantially embraced in the statement of invention or claims originally presented or when an oath or declaration submitted in accordance with § 1.53(d)(1) after the filing of the specification and any required drawings specifically and improperly refers to an amendment which includes new matter. No new matter may be introduced into a nonprovisional application after its filing date even if a supplemental oath or declaration is filed. In proper cases, the oath or declaration here required may be made on information and belief by an applicant other than inventor.

(c) A supplemental oath or declaration meeting the requirements of § 1.63 must also be filed if the application was altered after the oath or declaration was signed or if the oath or declaration was signed:

- (1) In blank;
- (2) Without review thereof by the person making the oath or declaration; or
- (3) Without review of the specification, including the claims, as required by § 1.63(b)(1).

[48 FR 2711, Jan. 20, 1983, effective Feb. 27, 1983; para. (c) added, 57 FR 2021, Jan. 17, 1992, effective Mar. 16, 1992; para. (b) revised, 60 FR 20195, Apr. 25, 1995, effective June 8, 1995]

37 CFR 1.68 Declaration in lieu of oath.

Any document to be filed in the Patent and Trademark Office and which is required by any law, rule, or other regulation to be under oath may be subscribed to by a written declaration. Such declaration may be used in lieu of the oath otherwise required, if, and only if, the declarant is on the same document, warned that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001) and may jeopardize the validity of the application or any patent issuing thereon. The declarant must set forth in the body of the declaration that all statements made of the declarant's own knowledge are true and that all statements made on information and belief are believed to be true.

[49 FR 48416, Dec. 12, 1984, effective Feb. 11, 1985]

37 CFR 1.69 Foreign language oaths and declarations.

(a) Whenever an individual making an oath or declaration cannot understand English, the oath or declaration must be in a language that such individual can understand and shall state that such individual understands the content of any documents to which the oath or declaration relates.

(b) Unless the text of any oath or declaration in a language other than English is a form provided or approved by the Patent and Trademark Office, it must be accompanied by a verified English translation, except that in the case of an oath or declaration filed under § 1.63 the translation may be filed in the Office no later than two months from the date applicant is notified to file the translation.

[42 FR 5594, Jan. 28, 1977; para. (b), 48 FR 2711, Jan. 20, 1983, effective Feb. 27, 1983]

37 CFR 1.70 [Reserved]

[52 FR 20046, May 28, 1987, effective July 1, 1987]

SPECIFICATION

37 CFR 1.71 Detailed description and specification of the invention.

(a) The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention

Patent Laws and Regulations

or discovery appertains, or with which it is most nearly connected, to make and use the same.

(b) The specification must set forth the precise invention for which a patent is solicited, in such manner as to distinguish it from other inventions and from what is old. It must describe completely a specific embodiment of the process, machine, manufacture, composition of matter or improvement invented, and must explain the mode of operation or principle whenever applicable. The best mode contemplated by the inventor of carrying out his invention must be set forth.

(c) In the case of an improvement, the specification must particularly point out the part or parts of the process, machine, manufacture, or composition of matter to which the improvement relates, and the description should be confined to the specific improvement and to such parts as necessarily cooperate with it or as may be necessary to a complete understanding or description of it.

(d) A copyright or mask work notice may be placed in a design or utility patent application adjacent to copyright and mask work material contained therein. The notice may appear at any appropriate portion of the patent application disclosure. For notices in drawings, see § 1.84(s). 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. Inclusion of a copyright or mask work notice will be permitted only if the authorization language set forth in paragraph (e) of this section is included at the beginning (preferably as the first paragraph) of the specification.

(e) The authorization shall read as follows: 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 document or the patent disclosure, as it appears in the Patent and Trademark Office patent file or records, but otherwise reserves all {copyright or mask work} rights whatsoever.

[paras. (d) and (e), 53 FR 47808, Nov. 28, 1988, effective Jan. 1, 1989; para. (d), 58 FR 38719, July 20, 1993, effective Oct. 1, 1993]

37 CFR 1.72 Title and abstract.

(a) The title of the invention, which should be as short and specific as possible, should appear as a heading on the first page of the specification, if it does not otherwise appear at the beginning of the application.

(b) A brief abstract of the technical disclosure in the specification must be set forth on a separate sheet, preferably following the claims under the heading “Abstract of the Disclosure”. The purpose of the abstract is to enable the Patent and Trademark Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure. The abstract shall not be used for interpreting the scope of the claims.

[31 FR 12922, Oct. 4, 1966; 43 FR 20464, May 11, 1978]

37 CFR 1.73 Summary of the invention.

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

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).

37 CFR 1.75 Claim(s).

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

Patent Laws and Regulations

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

(c) One or more claims may be presented in dependent form, referring back to and further limiting another claim or claims in the same application. Any dependent claim which refers to more than one other claim ("multiple dependent claim") shall refer to such other claims in the alternative only. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. For fee calculation purposes under § 1.16, a multiple dependent claim will be considered to be that number of claims to which direct reference is made therein. For fee calculation purposes, also, any claim depending from a multiple dependent claim will be considered to be that number of claims to which direct reference is made in that multiple dependent claim. In addition to the other filing fees, any original application which is filed with, or is amended to include, multiple dependent claims must have paid therein the fee set forth in § 1.16(d). Claims in dependent form shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of each of the particular claims in relation to which it is being considered.

(d)(1) The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. (See § 1.58(a).)

(2) See §§ 1.141 to 1.146 as to claiming different inventions in one application.

(e) Where the nature of the case admits, as in the case of an improvement, any independent claim should contain in the following order,

- (1) a preamble comprising a general description of all the elements or steps of the claimed combination which are conventional or known,
- (2) a phrase such as "wherein the improvement comprises," and
- (3) those elements, steps, and/or relationships which constitute that portion of the claimed combination which the applicant considers as the new or improved portion.

(f) If there are several claims, they shall be numbered consecutively in Arabic numerals.

(g) All dependent claims should be grouped together with the claim or claims to which they refer to the extent possible.

[31 FR 12922, Oct. 4, 1966; 36 FR 12690, July 3, 1971; 37 FR 21995, Oct. 18, 1972; 43 FR 4015, Jan. 31, 1978; para. (c), 47 FR 41276, Sept. 17, 1982, effective Oct. 1, 1982]

37 CFR 1.77 Arrangement of application elements.

The elements of the application should appear in the following order:

(a) Title of the invention; or an introductory portion stating the name, citizenship, and residence of the applicant, and the title of the invention may be used.

(b) (Reserved).

(c)(1) Cross-reference to related applications, if any.

(2) Reference to a "microfiche appendix" if any. (See § 1.96(b)). The total number of microfiche and total number of frames should be specified.

(d) Brief summary of the invention.

(e) Brief description of the several views of the drawing, if there are drawings.

(f) Detailed description.

(g) Claim or claims.

(h) Abstract of the disclosure.

(i) Signed oath or declaration.

Patent Laws and Regulations

(j) Drawings.

[43 FR 20464, May 11, 1978; 46 FR 2612, Jan. 12, 1981; paras. (h) and (i), 48 FR 2712, Jan. 20, 1983, effective Feb. 27, 1983]

37 CFR 1.78 Claiming benefit of earlier filing date and cross-references to other applications.

(a)(1) A nonprovisional application may claim an invention disclosed in one or more prior filed copending nonprovisional applications or international applications designating the United States of America. In order for a nonprovisional application to claim the benefit of a prior filed copending nonprovisional application or international application designating the United States of America, each prior application must name as an inventor at least one inventor named in the later filed nonprovisional application and disclose the named inventor's invention claimed in at least one claim of the later filed nonprovisional application in the manner provided by the first paragraph of 35 U.S.C. 112. In addition, each prior application must be:

- (i) complete as set forth in § 1.51(a)(1); or
- (ii) entitled to a filing date as set forth in § 1.53(b)(1), § 1.60 or § 1.62 and include the basic filing fee set forth in § 1.16; or
- (iii) entitled to a filing date as set forth in § 1.53(b)(1) and have paid therein the processing and retention fee set forth in § 1.21(l) within the time period set forth in § 1.53(d)(1).

(2) Any nonprovisional application claiming the benefit of one or more prior filed copending nonprovisional applications or international applications designating the United States of America must contain or be amended to contain in the first sentence of the specification following the title a reference to each such prior application, identifying it by application number (consisting of the series code and serial number) or international application number and international filing date and indicating the relationship of the applications. Cross-references to other related applications may be made when appropriate. (See § 1.14(b)).

(3) A nonprovisional application other than for a design patent may claim an invention disclosed in one or more prior filed copending provisional applications. Since a provisional application can be pending for no more than twelve months, the last day of pendency may occur on a Saturday, Sunday, or Federal holiday within the District of Columbia which for copendency would require the nonprovisional application to be filed prior to the Saturday, Sunday, or Federal holiday. In order for a nonprovisional application to claim the benefit of one or more prior filed copending provisional applications, each prior provisional application must name as an inventor at least one inventor named in the later filed nonprovisional application and disclose the named inventor's invention claimed in at least one claim of the later filed nonprovisional application in the manner provided by the first paragraph of 35 U.S.C. 112. In addition, each prior provisional application must be:

- (i) complete as set forth in § 1.51(a)(2); or
- (ii) entitled to a filing date as set forth in § 1.53(b)(2) and include the basic filing fee set forth in § 1.16(k).

(4) Any nonprovisional application claiming the benefit of one or more prior filed copending provisional applications must contain or be amended to contain in the first sentence of the specification following the title a reference to each such prior provisional application, identifying it as a provisional application, and including the provisional application number (consisting of series code and serial number).

(b) Where two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application.

(c) Where two or more applications, or an application and a patent naming different inventors and owned by the same party contain conflicting claims, and there is no statement of record indicating that the claimed inventions were commonly owned or subject to an obligation of

Patent Laws and Regulations

assignment to the same person at the time the later invention was made, the assignee may be called upon to state whether the claimed inventions were commonly owned or subject to an obligation of assignment to the same person at the time the later invention was made, and if not, indicate which named inventor is the prior inventor. In addition to making said statement, the assignee may also explain why an interference should or should not be declared.

(d) Where an application claims an invention which is not patentably distinct from an invention claimed in a commonly owned patent with the same or a different inventive entity, a double patenting rejection will be made in the application. An obviousness-type double patenting rejection may be obviated by filing a terminal disclaimer in accordance with § 1.321(b).

[36 FR 7312, Apr. 17, 1971; 49 FR 555, Jan. 4, 1984; paras. (a), (c) & (d), 50 FR 9380, Mar. 7, 1985, effective May 8, 1985; 50 FR 11366, Mar. 21, 1985; para. (a) revised 58 FR 54504, Oct. 22, 1993, effective Jan. 3, 1994; paras. (a)(1) and (a)(2) revised and paras. (a)(3) and (a)(4) added, 60 FR 20195, Apr. 25, 1995, effective June 8, 1995]

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.

THE DRAWINGS**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, flowsheets in cases of processes, and diagrammatic views).

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

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

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

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).

(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).

Patent Laws and Regulations

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

37 CFR 1.84 Standards for drawings.

(a) Drawings. There are two acceptable categories for presenting drawings in utility 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 patent application or the subject matter of a statutory invention registration. The Patent and Trademark Office will accept color drawings in utility 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 appropriate fee set forth in § 1.17(h);
 - (ii) Three (3) sets of color drawings; and
 - (iii) The specification must contain the following language as the first paragraph in that portion of the specification relating to the brief description of the drawing:

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

If the language is not in the specification, a proposed amendment to insert the language must accompany the petition.

(b) Photographs.

- (1) Black and white. Photographs are not ordinarily permitted in utility and design patent applications. However, the Office will accept photographs in utility and design patent applications only after granting a petition filed under this paragraph which requests that photographs be accepted. Any such petition must include the following:

- (i) The appropriate fee set forth in § 1.17(h); and
- (ii) Three (3) sets of photographs.

Photographs must either be developed on double weight photographic paper or be permanently mounted on Bristol board. The photographs must be of sufficient quality so that all details in the drawing are reproducible in the printed patent.

- (2) Color. Color photographs will be accepted in utility patent applications if the conditions for accepting color drawings have been satisfied. See paragraph (a)(2) of this section.

(c) Identification of drawings. Identifying indicia, if provided, should include the application number or the title of the invention, inventor's name, docket number (if any), and the name and telephone number of a person to call if the Office is unable to match the drawings to the proper application. This information should be placed on the back of each sheet of drawings a minimum distance of 1.5 cm. (5/8 inch) down from the top of the page.

(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

Patent Laws and Regulations

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, nonshiny, and durable. All sheets must be free from cracks, creases, and folds. Only one side of the sheet shall be used for the drawing. Each sheet must be reasonably free from erasures and must be free from alterations, overwritings, and interlineations. Photographs must either be developed on double weight photographic paper or be permanently mounted on Bristol board. 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) 21.6 cm. by 35.6 cm. (8 1/2 by 14 inches),
- (2) 21.6 cm. by 33.1 cm. (8 1/2 by 13 inches),
- (3) 21.6 cm. by 27.9 cm. (8 1/2 by 11 inches), or
- (4) 21.0 cm. by 29.7 cm. (DIN size A4).

(g) **Margins.** The sheets must not contain frames around the sight; i.e., the usable surface. The following margins are required:

- (1) On 21.6 cm. by 35.6 cm. (8 1/2 by 14 inch) drawing sheets, each sheet must include a top margin of 5.1 cm. (2 inches), and bottom and side margins of .64 cm. (1/4 inch) from the edges, thereby leaving a sight no greater than 20.3 cm. by 29.8 cm. (8 by 11 3/4 inches).
- (2) On 21.6 cm. by 33.1 cm. (8 1/2 by 13 inch) drawing sheets, each sheet must include a top margin of 2.5 cm. (1 inch) and bottom and side margins of .64 cm. (1/4 inch) from the edges, thereby leaving a sight no greater than 20.3 cm. by 29.8 cm. (8 by 11 3/4 inches).
- (3) On 21.6 cm. by 27.9 cm. (8 1/2 by 11 inch) drawing sheets, each sheet must include a top margin of 2.5 cm. (1 inch) and bottom and side margins of .64 cm. (1/4 inch) from the edges, thereby leaving a sight no greater than 20.3 cm. by 24.8 cm. (8 by 9 3/4 inches).
- (4) On 21.0 cm. by 29.7 cm. (DIN size A4) drawing sheets, each sheet must include a top margin of at least 2.5 cm., a left side margin of 2.5 cm., a right side margin of 1.5 cm., and a bottom margin of 1.0 cm., thereby leaving a sight no greater than 17.0 cm. by 26.2 cm.

(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

Patent Laws and Regulations

positions of the parts shown. When a portion of a view is enlarged for magnification purposes, the view and the enlarged view must each be labeled as separate views.

- (i) Where views on two or more sheets form, in effect, a single complete view, the views on the several sheets must be so arranged that the complete figure can be assembled without concealing any part of any of the views appearing on the various sheets.
 - (ii) A very long view may be divided into several parts placed one above the other on a single sheet. However, the relationship between the different parts must be clear and unambiguous.
- (3) Sectional views. The plane upon which a sectional view is taken should be indicated on the view from which the section is cut by a broken line. The ends of the broken line should be designated by Arabic or Roman numerals corresponding to the view number of the sectional view, and should have arrows to indicate the direction of sight. Hatching must be used to indicate section portions of an object, and must be made by regularly spaced oblique parallel lines spaced sufficiently apart to enable the lines to be distinguished without difficulty. Hatching should not impede the clear reading of the reference characters and lead lines. If it is not possible to place reference characters outside the hatched area, the hatching may be broken off wherever reference characters are inserted. Hatching must be at a substantial angle to the surrounding axes or principal lines, preferably 45°. A cross section must be set out and drawn to show all of the materials as they are shown in the view from which the cross section was taken. The parts in cross section must show proper material(s) by hatching with regularly spaced parallel oblique strokes, the space between strokes being chosen on the basis of the total area to be hatched. The various parts of a cross section of the same item should be hatched in the same manner and should accurately and graphically indicate the nature of the material(s) that is illustrated in cross section. The hatching of juxtaposed different elements must be angled in a different way. In the case of large areas, hatching may be confined to an edging drawn around the entire inside of the outline of the area to be hatched. Different types of hatching should have different conventional meanings as regards the nature of a material seen in cross section.
- (4) Alternate position. A moved position may be shown by a broken line superimposed upon a suitable view if this can be done without crowding; otherwise, a separate view must be used for this purpose.
- (5) Modified forms. Modified forms of construction must be shown in separate views.
- (i) Arrangement of views. One view must not be placed upon another or within the outline of another. All views on the same sheet should stand in the same direction and, if possible, stand so that they can be read with the sheet held in an upright position. If views wider than the width of the sheet are necessary for the clearest illustration of the invention, the sheet may be turned on its side so that the top of the sheet, with the appropriate top margin to be used as the heading space, is on the right-hand side. Words must appear in a horizontal, left-to-right fashion when the page is either upright or turned so that the top becomes the right side, except for graphs utilizing standard scientific convention to denote the axis of abscissas (of X) and the axis of ordinates (of Y).
- (j) View for Official Gazette. One of the views should be suitable for publication in the Official Gazette as the illustration of the invention.
- (k) Scale.
- (1) 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. Views of portions of the mechanism on a larger scale should be used when necessary to show details clearly. Two or more sheets may be used if one does not give sufficient room. The number of sheets should be kept to a minimum.
 - (2) When approved by the examiner, the scale of the drawing may be graphically represented. Indications such as "actual size" or "scale 1/2" on the drawings, are

Patent Laws and Regulations

not permitted, since these lose their meaning with reproduction in a different format.

- (3) Elements of the same view must be in proportion to each other, unless a difference in proportion is indispensable for the clarity of the view. Instead of showing elements in different proportion, a supplementary view may be added giving a larger-scale illustration of the element of the initial view. The enlarged element shown in the second view should be surrounded by a finely drawn or "dot-dash" circle in the first view indicating its location without obscuring the view.

(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, or may be required by the Examiner, where necessary for understanding of the drawing, subject to approval by the Office. They should contain as few words as possible.

(p) Numbers, letters, and reference characters.

- (1) Reference characters (numerals are preferred), sheet numbers, and view numbers must be plain and legible, and must not be used in association with brackets or inverted commas, or enclosed within outlines, e.g., encircled. They must be oriented in the same direction as the view so as to avoid having to rotate the sheet. Reference characters should be arranged to follow the profile of the object depicted.
- (2) The English alphabet must be used for letters, except where another alphabet is customarily used, such as the Greek alphabet to indicate angles, wavelengths, and mathematical formulas.
- (3) Numbers, letters, and reference characters must measure at least .32 cm. (1/8 inch) in height. They should not be placed in the drawing so as to interfere with its comprehension. Therefore, they should not cross or mingle with the lines. They should not be placed upon hatched or shaded surfaces. When necessary, such as indicating a surface or cross section, a reference character may be underlined and a blank space may be left in the hatching or shading where the character occurs so that it appears distinct.
- (4) The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character, and the same reference character must never be used to designate different parts.

Patent Laws and Regulations

- (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.** The drawing sheets may be provided with two holes in the top margin. The holes should be equally spaced from the respective side edges, and their center lines should be spaced 7.0

Patent Laws and Regulations

cm. (2 3/4 inches) apart. (See § 1.152 for design drawings, § 1.165 for plant drawings, and § 1.174 for reissue drawings.)

[24 FR 10332, Dec. 22, 1959; 31 FR 12923, Oct. 4, 1966; 36 FR 9775, May 28, 1971; 43 FR 20464, May 11, 1978; 45 FR 73657, Nov. 6, 1980; paras. (a), (b), (i), (j), and (l) amended, paras. (n), (o), and (p) added, 53 FR 47809, Nov. 28, 1988, effective Jan. 1, 1989; revised, 58 FR 38719, July 20, 1993, effective Oct. 1, 1993]

37 CFR 1.85 Corrections to drawings.

(a) The requirements of § 1.84 relating to drawings will be strictly enforced. A drawing not executed in conformity thereto, if suitable for reproduction, may be admitted for examination but in such case a new drawing must be furnished.

(b) The Patent and Trademark Office will not release drawings in applications having a filing date after January 1, 1989, or any drawings from any applications after January 1, 1991, for purposes of correction. If corrections are necessary, new corrected drawings must be submitted within the time set by the Office.

(c) When corrected drawings are required to be submitted at the time of allowance, the applicant is required to submit acceptable drawings within three months from the mailing of the "Notice of Allowability." Within that three-month period, two weeks should be allowed for review of the drawings by the Drafting Branch. If the Office finds that correction is necessary, the applicant must submit a new corrected drawing to the Office within the original three-month period to avoid the necessity of obtaining an extension of time and paying the extension fee. Therefore, the applicant should file corrected drawings as soon as possible following the receipt of the Notice of Allowability. The provisions with respect to obtaining an extension of time relates only to the late filing of corrected drawings. The time limit for payment of the issue fee is a fixed three-month period which cannot be extended as set forth in 35 U.S.C. 151.

[47 FR 41276, Sept. 17, 1982, effective Oct. 1, 1982; 53 FR 47810, Nov. 28, 1988, effective Jan. 1, 1989]

37 CFR 1.88 [Removed and Reserved]

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

MODELS, EXHIBITS, SPECIMENS**37 CFR 1.91 Models not generally required as part of application or patent.**

Models were once required in all cases admitting a model, as a part of the application, and these models became a part of the record of the patent. Such models are no longer generally required (the description of the invention in the specification, and the drawings, must be sufficiently full and complete, and capable of being understood, to disclose the invention without the aid of a model), and will not be admitted unless specifically called for.

37 CFR 1.92 Model or exhibit may be required.

A model, working model, or other physical exhibit may be required if deemed necessary for any purpose on examination of the application.

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.

37 CFR 1.94 Return of models, exhibits or specimens.

Models, exhibits, or specimens in applications which have become abandoned, and also in other applications on conclusion of the prosecution, may be returned to the applicant upon demand and at his expense, unless it is deemed necessary that they be preserved in the Office. Such physical exhibits in contested cases may be returned to the parties at their expense. If not claimed within a reasonable time, they may be disposed of at the discretion of the Commissioner.

*Patent Laws and Regulations***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 Commissioner.

37 CFR 1.96 Submission of computer program listings.

Descriptions of the operation and general content of computer program listings should appear in the description portion of the specification. A computer program listing for the purpose of these rules is defined as a printout that lists in appropriate sequence the instructions, routines, and other contents of a program for a computer. The program listing may be either in machine or machine-independent (object or source) language which will cause a computer to perform a desired procedure or task such as solve a problem, regulate the flow of work in a computer, or control or monitor events. Computer program listings may be submitted in patent applications in the following forms:

(a) Material which will be printed in the patent. If the computer program listing is contained on 10 printout pages or less, it must be submitted either as drawings or as part of the specification.

- (1) Drawings. The listing may be submitted in the manner and complying with the requirements for drawings as provided in § 1.84. At least one figure numeral is required on each sheet of drawing.
- (2) Specification.
 - (i) The listing may be submitted as part of the specification in accordance with the provisions of § 1.52, at the end of the description but before the claims.
 - (ii) The listing may be submitted as part of the specification in the form of computer printout sheets (commonly 14 by 11 inches in size) for use as "camera ready copy" when a patent is subsequently printed. Such computer printout sheets must be original copies from the computer with dark solid black letters not less than 0.21 cm high, on white, unshaded and unlined paper, the printing on each sheet must be limited to an area 9 inches high by 13 inches wide, and the sheets should be submitted in a protective cover. When printed in patents, such computer printout sheets will appear at the end of the description but before the claims and will usually be reduced about 1/2 in size with two printout sheets being printed as one patent specification page. Any amendments must be made by way of submission of a substitute sheet if the copy is to be used for camera ready copy.

(b) As an appendix which will not be printed. If a computer program listing printout is 11 or more pages long, applicants may submit such listing in the form of microfiche, referred to in the specification (see § 1.77(c)(2)). Such microfiche filed with a patent application is to be referred to as a "microfiche appendix." The "microfiche appendix" will not be part of the printed patent. Reference in the application to the "microfiche appendix" should be made at the beginning of the specification at the location indicated in § 1.77(c)(2). Any amendments thereto must be made by way of revised microfiche. All computer program listings submitted on paper will be printed as part of the patent.

- (1) Availability of appendix. Such computer program listings on microfiche will be available to the public for inspection, and microfiche copies thereof will be available for purchase with the file wrapper and contents, after a patent based on such application is granted or the application is otherwise made publicly available.
- (2) Submission requirements. Computer-generated information submitted as an appendix to an application for patent shall be in the form of microfiche in accordance with the standards set forth in the following American National Standards Institute (ANSI) or National Micrographics Association (NMA) standards (Note: As new editions of these standards are published, the latest shall apply):

ANSI PH 1.28-1976-Specifications for Photographic Film for Archival records,