

## OVERVIEW OF THE U.S. PATENT CLASSIFICATION SYSTEM (USPC)

# Overview of the U.S. Patent Classification System (USPC)

## 1.1 The USPC

The USPC is a system for organizing all U.S. patent documents and many other technical documents into relatively small collections based on common subject matter. Each subject matter division in the USPC includes a major component called a **class** and a minor component called a **subclass**. A class generally delineates one technology from another. Subclasses delineate processes, structural features, and functional features of the subject matter encompassed within the scope of a class. Every class has a unique alphanumeric identifier, as do most subclasses.

A class/subclass pair of identifiers uniquely identifies a subclass within a class (for example, the identifier “2/456” represents Class 2, Apparel, subclass 456, Body cover). This unique identifier is called a **classification symbol**, or simply a **classification**, or USPC classification, to distinguish it from classifications of other patent classification schemes. A subclass represents the smallest division of subject matter in the USPC under which documents may be collected.

A collection of documents is defined as a set of documents sharing a common classification. A classification assigned to a document associates the document to the class and subclass identified by the classification. Documents are “classified in a subclass” if a classification corresponding to the unique subclass has been assigned to it. A document may be a member of more than one collection, i.e., it may have more than one classification assigned to it. Classifications are assigned to documents based on disclosure in the document.

The USPC includes the following:

- The *Manual of Classification* (**MOC**). The MOC is an ordered listing of all the valid classifications in the USPC. Classifications are presented in the MOC as **class schedules**. A class schedule is a listing of all the subclasses in a class in top-to-bottom order of classification precedence, with the most complex and comprehensive subject matter generally at the top of the schedule, and the least complex and comprehensive at the bottom. Class schedules are arranged in the MOC in numerical order; for example, the schedule for Class 2 appears before the schedule for Class 224. The MOC is published electronically in HTML and PDF versions, which are available from the internal and external USPTO Web sites, respectively.

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- Tools to provide guidance for the proper classification of documents in the USPC include the published definitions of the classes and subclasses, and the ***Index to the U.S. Patent Classification System***. All classes, and most subclasses have definitions. The definition of a class or subclass is a detailed description of the subject matter that must be in a document in order for the document to be properly classified in the subclass within the subclass. The ***Index to the U.S. Patent Classification System*** is an index to the MOC. It lists technical subject matter alphabetically using ordinary terminology and directs the user to the general area of the MOC listing subclasses related to that subject matter.
- Classification Data Systems (CDS) includes databases and automated processes for storing and managing the collections. The database containing information regarding which classifications are assigned to which documents is called the **Master Classification File (MCF)**. The MCF can be queried to identify which documents are in which collections. The MCF is also used to make certain that every U.S. patent document has at least one USPC classification.
- *The United States Patent Classification Standards and Procedures (USPCLASP)* is the official guide for conducting a reclassification project, including classifying documents into the USPC, creating new classes and subclasses, and modifying or abolishing existing classes and subclasses. Changes to any standards or practices of the USPC occurring between successive editions of the USPCLASP are reflected in the Classification Bulletins, published periodically by the Office of Patent Classification.

The USPC serves both to facilitate the efficient retrieval of related technical documents and to route patent applications within the USPTO for examination. Periodically, the USPC is amended to cover new technologies or to cover in finer detail technologies that encompass large and growing collections of documents. Revisions to the USPC that require a redistribution of documents between collections, i.e., reclassification of the documents, are made through **reclassification projects**.

### 1.2 Documents Organized by the USPC

U.S. patent documents comprise the primary set of documents organized by the USPC. These include U.S. patent grants (“patents”), U.S. Pre-Grant Publications (PGPub documents), U.S. Statutory Invention Registrations (SIR) and other U.S. defensive publications, Reissued U.S. patents, Reexamined U.S. patents, and U.S. Trial Voluntary Protest Program documents. Each of these documents must be classified in one or more subclasses. Other types of technology-related documents, such as foreign patent documents, non-patent literature (NPL) including books and journal articles, and even Web sites, are optionally classified in the USPC by patent examiners.

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### 1.3 Document Collections in the USPC

There are two types of document collections in use today at the USPTO: electronic collections and paper collections.

Electronic collections are used most often by the public and by patent examiners. Electronic collections exist as records in an electronic database associating classifications with electronic copies of documents. Viewing documents in an electronic collection involves displaying on a computer screen the images or text of the documents having the desired classifications associated with them.

The paper collections are boxes of paper documents. These boxes, known as “shoes,” are still available, on a limited basis, in some examiner search rooms. Reviewing the documents in a paper collection involves physically locating the shoes containing the documents and reviewing the individual documents.

#### 1.4.1 USPC Classifications

A USPC classification uniquely identifies one of the more than 150,000 subclasses in the USPC. Because subclass identifiers may be repeated among the more than 450 classes, a USPC classification must include both a class and a subclass. Every U.S. patent document has at least one mandatory classification, and may optionally include one or more discretionary classifications. For U.S. patent documents, the classification of “invention information” is mandatory, and the classification of “other” information is discretionary. “Invention information” is the technical subject matter disclosed in a document that is new and non-obvious to one having ordinary skill in the technical field. “Other” information is non-trivial, technical subject matter that is not invention information, but which otherwise clearly teaches or illustrates a principle that would be useful for search purposes. For U.S. patent documents, the invention information is almost always in the claims.

U.S. patents receive a mandatory classification for all claimed disclosure, that is, the claims are read in conjunction with the specification since the claims define the invention information. A classification is assigned to the patent where each of its claims is separately classified. Some claims, such as Markush and generic-type claims may be classifiable in more than one class or subclass in the USPC. Multiple mandatory classifications are assigned to documents based on such claims. Classifications based on unclaimed disclosure in patents are generally discretionary classifications.

U.S. PGPub documents, which are published patent applications, also receive mandatory classifications for all of their disclosed “invention information.” Using the claims as a guide, subject matter disclosed in a PGPub document that is both novel and non-obvious

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is considered to be “invention information.” PGPub documents may additionally be assigned discretionary classifications based on other, non-invention information disclosure.

### 1.4.2 Types of Classifications

USPC classifications are either mandatory or discretionary and also differ according to the type of document with which they are associated. There are four types of classifications in the USPC and the documents associated with each classification depend on the document type: **Original Classifications (OR)** and **Cross Reference Classifications (XR)** are associated with U.S. patents; and **Primary Classifications (PR)** and **Secondary Classifications (SR)** are associated with U.S. PGPub documents. All other documents classified in the USPC receive only XR classifications.

### 1.4.3 Original Classifications

Every U.S. patent must have one—and only one—principal mandatory classification known as an OR classification. The OR classification must be in a **primary subclass**. The class of the OR classification is the same as the class of the **controlling claim** in the patent, or the most superior class of the controlling claim if it has more than one classification. The subclass of the OR classification is determined by the classification of whichever claim is classified deepest in the highest subclass array in the class.

### 1.4.4 Cross-Reference Classifications

Any document may be classified in the USPC in more than one subclass, but no document may be classified in the same subclass more than once. If a U.S. patent has more than one classification, all classifications other than the OR classification are referred to as cross-reference (XR) classifications. An XR classification of a U.S. patent may be in any subclass except a foreign (FOR) subclass. XR classifications based on the claimed or unclaimed invention information disclosed in the patent are mandatory classifications. XR classifications based on other information are discretionary classifications. Although information regarding the difference between mandatory and discretionary XR classifications is now captured on a limited basis, there is no means currently available to display that information.

The classifications assigned to all foreign patent documents and NPL are XR classifications. These XR classifications may identify either invention information or non-invention information.

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### 1.4.5 Primary Classifications

U.S. PGPub documents classified in the USPC are assigned one, and only one, principal mandatory classification, known as the Primary Classification (PR). The PR classification of a U.S. PGPub document must be in a primary subclass. The PR classification is indicative of the invention as a whole or the main inventive concept using the claims as a guide. The experience and knowledge of the state of the art by those classifying the documents can be a factor in how these documents are classified.

### 1.4.6 Secondary Classifications

Classifications in addition to the PR on a U.S. PGPub document are known as Secondary Classifications (SR). All invention information subject matter in a U. S. PGPub document must receive a mandatory classification. Any invention information disclosed in a U.S. PGPub separately classifiable apart from the PR is assigned a mandatory SR classification. Other noninvention information thought to have particularly good search value may be assigned a discretionary SR classification by the person classifying the documents.

### 1.5.1 Class Properties

Although the subject matter encompassed by each class is different, classes have some common properties or attributes. Properties that uniquely identify a class are listed below.

- Every class has a title descriptive of the subject matter found in the documents classified in the class.
- Every class has an identifier of one to three characters that uniquely identifies the class. The plant class identifier is PLT; utility classes are identified by a one-, two-, or three-digit integer; and the design classes employ a D followed by a one- or two-digit integer. The identifiers are otherwise arbitrary and used for identification purposes only.
- Every class has a definition describing in detail the type of subject matter that may be classified in the class. Each class definition must include:
  - A class identifier and class title identical to that of the class.
  - A statement of the basic subject matter provided for by the class.

Each class definition may optionally include the following:

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- **Line notes** to distinguish the subject matter of the class from that of other classes or between subclasses within the class.
  - **See or Search Class notes** which point to similar subject matter or other relevant information in other classes.
  - **See or Search This Class, Subclass** notes to similar subject matter or other relevant information within the class.
  - **References to Other Classification Systems**, i.e., concordance information.
  - A **Glossary** for terminology peculiar to the technology in the class.
  - Drawings or figures representative or definitive of the subject matter found in the class.
- Classes are mutually exclusive, meaning that the subject matter provided for by one class does not overlap that provided for by another. This principle was developed to ensure that patents are consistently classified into the USPC; however, in practice, emerging technologies not clearly provided for in any one class may develop in more than one class simultaneously.
  - Each class is exhaustive of the subject matter provided for in its definition. Except for those items explicitly excluded in the definition or provided for according to special agreement between Technology Centers, all the subject matter a class encompasses in its definition must also be addressed by the class schedule. In order to satisfy this condition, most class schedules include a residual subclass intended to take all the subject matter of the class not provided for by any other subclasses in the class. The residual subclass is generally entitled “MISCELLANEOUS” and usually appears at the end of the class schedule.

### 1.5.2 Class Types

The USPC must provide a classification for every US patent document; thus, the system incorporates classes covering the entire spectrum of types of subject matter that can be claimed in a US patent. Accordingly, the USPC has class types that account for all of the basic statutory invention types. To improve the ability to search patents, other class types have also been developed in the USPC. These newer class types are the result of changes regarding how subject matter should be grouped together, both in response to judicial review of the patent system and in consideration of the positive aspects of other classification systems. The types of classes currently in the USPC are as follows:

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- Design classes. Design patents, issued under Title 35 of the United States Code in Section 171 (35 U.S.C. 171), protect ornamental designs. The principal classification, i.e., **OR classification**, for a design patent is placed in one of the design classes. Design patents can easily be recognized by their patent number, which usually begins with the letter "D." The USPC currently has 33 design classes.
- Plant class. Plant patents, issued under 35 U.S.C. 161, protect new and distinct varieties of asexually reproducible plants. The USPC has one plant class, designated PLT, in which all plant patents are classified. Plant patents are the only US patents published with full color drawings.
- Utility classes. Utility patents, issued under 35 U.S.C. 101, protect any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof. Utility classes have a class number from 1 to 999. The USPC currently has more than 400 utility classes. Some utility classes provide exclusively for a single statutory category. Examples of such categories include articles of manufacture, processes, and machines to make articles of manufacture, in addition to composition and compound classes. Many utility classes include some combinations of types of subject matter. For example, compound classes also cover most processes for making compounds. Additionally, the following types of utility classes exist in the USPC:
  - Proximate function classes. Proximate function classes are utility classes intended to provide for subject matter from a wide area of applications that operate in a similar manner. For example, a butter churn and a mixer (shaken, not stirred) both function using agitation and are classified in Class 366, Agitating.
  - Industry classes. Industry classes are utility classes intended to provide for all subject matter that may be utilized within an industry, even though that subject matter would be classified elsewhere if it were not intended for use in that industry. Class 128, Surgery, is an example of an industry class encompassing almost everything having to do with surgery, such as a surgical knife, which would otherwise be classifiable in Class 30, Cutlery, if it were not used for surgical purposes. Industry classes are sometimes referred to as intended use classes.
- Cross-reference art collection classes. These are classes that have been created as an alternative search. Cross-reference art collection classes are not used as a basis for assigning patent applications for examination and may not serve as the OR classification for an issuing patent. Some cross-reference art collection classes reflect the European Classification system (ECLA) used by the EPO. Currently, all cross-reference art collection classes are based on utility.

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Subclasses within a class are uniquely identifiable by their positions in the class schedule. Subclasses, like classes, have properties identifying them and the type of subject matter they include. In addition, the properties of a subclass distinguish it from other subclasses and determine its relative placement in a schedule. Listed below are subclass properties.

- Every subclass has a descriptive title indicating the type of subject matter provided for by the subclass.
- Primary subclasses (excluding alpha subclasses) and cross-reference art collection subclasses have definitions to further define the subject matter they contain. Not all subclasses in the Design classes have been written yet. A subclass definition includes the following:
  - A title identical to that of the subclass title found in the Manual of Classification.
  - Statement of the basic subject matter provided for by the subclass.

A subclass definition may optionally include the following:

- **See or Search Class** notes to other classes.
  - **See or Search This Class, Subclass** notes to other subclasses within the class.
  - References to Other Classification Systems.
  - Glossary.
  - Illustrations or figures.
- Every subclass has an **indent** level. Indentation is a shorthand notation for illustrating dependency. The indent level of a subclass is shown as a series of zero or more **dots** (periods) immediately preceding the title of the subclass in the class schedule.
    - A subclass having an indent level of zero (i.e., no dots) is called a **mainline** subclass. A mainline subclass has no parent subclass. A mainline subclass directly depends from the class and inherits all the properties of the class.



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- The class title of a mainline subclass is interpreted as including the title of the class; the mainline definition includes all the limitations of the class definition; etc.
  - A mainline subclass is set in capital letters and bold font to make it easy to identify in a class schedule.
  - A subclass having one dot before the title has one indent level and is called a one-dot indent subclass; a subclass having two dots before the title has two indent levels and is called a two-dot indent subclass; a subclass having five dots before the title is called a five-dot indent subclass; etc.
  - A second subclass is the **child** of a first subclass if the second subclass is indented one level more (i.e., has one more dot) than the first subclass, is positioned below the first subclass in the class schedule, and there are no intervening subclasses having an indent level less than the second subclass. Conversely, the first subclass is referred to as the **parent** subclass of the second.
  - Subclasses are **coordinate** with each other when they each have the same parent subclass and the same indent level.
  - Subclasses inherit all the properties of their parent subclass. This means that every subclass title is interpreted to include the title of its parent subclass; its definition is interpreted to include the definition of its parent subclass; etc.
  - A subclass array is a subclass and all the subclasses indented under it. A class schedule is like a tree having many limbs and branches: each mainline forms the main limb of a subclass array with the indented subclasses in the array forming the branches of the limb.
- Subclasses employ an alphanumeric identifier. While every effort is made to keep them in numerical sequence, the alphanumeric identifiers associated with subclasses are arbitrary and used only to identify the subclass, not their relative order. Subclass identifiers are not necessarily unique from one class to the next. For example, there is currently a subclass 1 in 425 different classes.
  - Coordinate subclasses are exhaustive of the subject matter they provide for. This means that the first subclass among coordinate subclasses that provides for a particular subject matter will take all documents having that subject matter. No documents having that subject matter will be classified in coordinate subclasses below it. In other words, when classifying documents, coordinate subclasses have top-to-bottom precedence.

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- Subclasses are inclusive. This means that a document is classifiable in a subclass if the document discloses “at least” the subject matter required by the subclass, although the document may disclose more than is required by the subclass. For example, if a subclass is defined to cover the technical subject matter “A”, because of the inclusive nature of subclasses, the subclass will also take combinations of subject matter including “A” (e.g., “AB”, “AC”, “ABCD”, etc.) unless the combination is provided for by a subclass higher in the class schedule.
- Some subclasses are *harmonized* with classifications in other classification systems, for example, the International Patent Classification (IPC) or the European Classification (ECLA) systems. By definition, the scopes of subject matter covered by corresponding harmonized classifications in the two systems are identical. E-subclasses are examples of harmonized subclasses. Harmonized subclass definitions indicate both the foreign classification system and the individual classification in the foreign system with which the subclass is harmonized. Harmonized subclasses can be identified by the “(EPO)”, “(JPO)”, or “(IPC)” designations that appear at the end of their titles. These designations indicate the international system with which the subclass is harmonized. A primary benefit of harmonized USPC subclasses is that they are regularly populated with foreign documents classified by the Offices with which the subclasses are harmonized, allowing examiners to find both the US and foreign documents together in a single subclass.

### 1.6.2 Subclass Types

The USPC contains different types of subclasses. Each type of subclass performs a specific function or contains a specific type of document. Having different types of subclasses in the USPC improves the search of patent documents. The types of subclasses are as follows:

- **Primary subclasses.** Primary subclasses can be used as classifications for all types of documents and can be used with either mandatory or discretionary classification types. Primary subclasses are the only subclasses that can be used for assigning Original classifications to U.S. patents, and for this reason, are the only subclasses used for docketing patent applications within the USPTO. Primary subclasses and E-subclasses are also the only types of subclasses that have mandatory classifications assigned to them. Primary subclasses define the main body of all class schedules except for cross-reference art collection classes. Primary subclasses may be either of the following two types of subclasses:
  - *Numbered subclasses.* Numbered subclasses can have up to a seven-digit decimal numeric identifier (including the decimal point, i.e., 123.456). Numbered subclasses can have an application assigned to them for examination if they reside

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in a class where an application can be assigned for examination. Numbered subclasses have definitions.

- *Alpha subclasses.* Alpha subclasses are similar to numbered subclasses except that they contain one or two alphabetic characters after the numeric identifier (e.g., 2R, 23AB). However, only residual alpha subclasses, the alpha subclasses where the alphabetic identifier is “R,” have definitions. Originally, alpha subclasses were collections of patents examiners created and kept as private collections for their personal use. Later, these private collections of patents were brought into the USPC as “alphas.” Presently, because alpha subclasses can be incorporated into the USPC rapidly to provide a home for emerging technologies, alpha subclasses continue to be created as temporary subclasses until definitions can be written for them.
- **Secondary subclasses.** Secondary subclasses are subclasses that can neither accept an original classification of a U.S. patent nor a primary classification of a PGPub document. Secondary subclasses can only have discretionary classifications assigned to them, no mandatory classifications. These subclasses are used exclusively to improve the quality of a search. There are five types of secondary subclasses:
  - *Unnumbered subclasses.* Unnumbered subclasses have no identifier and serve only as headers in the class schedules to provide a general description of the subclasses indented beneath them. Unnumbered subclasses have no documents whatsoever assigned to them. They have no definitions and are being systematically eliminated.
  - *Cross-reference art collection subclasses.* Cross-reference art collection subclasses, as do numbered subclasses, have numeric identifiers and definitions. The numeric identifiers of cross-reference art collection subclasses are usually 900 and greater, although cases exist where they are lower than 900. Cross-reference art collections exist primarily to house examiners’ collections of art not easily classified in the existing class schedules. Near the end of the schedule, after the primary subclasses, cross-reference art collections appear after a header identifying them and are only superior to other cross-reference art collection subclasses indented under them.
  - *Digests.* Digests are similar to cross-reference art collections, but they do not have definitions. The identifiers for digest subclasses all begin with “Dig”, and are followed by a one- to three-digit number. Digests appear at the very end of the schedule after a header identifying them and are only superior to other digest subclasses indented under them.

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- *Foreign Patent and Non-Patent Literature Collections.* Foreign subclasses have an identifier “FOR” followed by three digits, e.g. FOR100, and consist solely of the foreign patent documents and selected non-patent literature. Before 1995, foreign patent documents and selected non-patent literature documents that were in subclasses with U.S. patents were reclassified with the U.S. patents when the subclasses were reclassified. In 1995, reclassification of foreign patent documents was halted to conserve financial resources. In order to keep the foreign patent and non-patent literature collections intact when subclasses were abolished by reclassification projects, Foreign Patent and Non-Patent Literature Collections were created corresponding to the old, abolished, reclassified subclasses. The FOR subclasses include the definitions of their predecessor primary subclasses, but they do not preserve any SEE OR SEARCH CLASS or SEE OR SEARCH THIS CLASS, SUBCLASS references. However, they do retain any numbered notes, i.e., (1) Note, etc. In the Schedules, unnumbered and indented titles are provided above FOR subclasses in order to preserve their original indent level. FOR collections appear at the end of the class schedules before Digests, if there are any Digests, are placed after a header identifying them, and are superior only to other FOR subclasses indented under them. A special subclass, FOR000, has been created in each schedule to facilitate machine placement of foreign patent documents into the USPC system. Documents classified in FOR000 are considered classified at the class level.
  
- *E-subclasses.* E-subclasses are special cross-reference art collections that have a one-for-one correspondence with classifications in the European Classification system (ECLA). In addition to serving as a basis for harmonizing USPC with ECLA, E-subclasses provide alternative searches for the other USPC subclasses in the classes in which they appear. Positionally, they follow the primary subclasses in class schedules. E-subclass identifiers begin with the letter “E” and are followed by up to five numerical digits having the format Enn.nnn. When E-subclasses are created, they are initially populated with both U.S. and foreign documents classified in their ECLA counterparts. Initially, this includes both U.S. and foreign patent documents. After their creation, E-subclasses are updated with new U.S. patent documents classified by USPTO and by new European foreign documents by the European Patent Office (EPO). If the title of an E-subclass ends with “(EPO)”, then the subclass is regularly updated with foreign documents classified by the EPO. If the title has a “(JPO)” suffix the subclass is regularly updated with documents classified by the Japan Patent Office (JPO). Both suffixes may appear at the end of an E-subclass title. In some cases, the title, indent level, or order of the E-subclasses has been modified from their ECLA counterparts to make their contents clearer and more amenable to U.S. classification practices. Each E-subclass has a definition that indicates its hierarchy and the ECLA classification to which it corresponds. Some, but not all E-subclasses, have a description of the basic subject matter of the subclass. As with other subclasses, a review of several documents classified in an E-subclass can be useful for interpreting or confirming its scope.

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### 1.7 How to Scan a Class Schedule to Select a Subclass

Consistent and correct classification of subject matter in the USPC is what ensures the efficient retrieval of subject matter by classification. The inclusive nature of coordinate subclasses, along with top-to-bottom precedence of subclasses within a class schedule ensures consistent classification of like subject matter within a class. A simple procedure exists for selecting the proper subclass within a class schedule to classify subject matter. A similar procedure is used for selecting subclasses to review for a classified search of documents. The procedure entails successively finding the first coordinate subclass in deeper indented subclass arrays that provide for any portion of the subject matter until no further indentation is possible. The steps of selecting the proper subclass within a class schedule are illustrated with an example, below.

- Beginning at the top of the schedule, scan downward through the schedule looking only at mainline subclasses until one is found that provides for any portion of the subject matter to be classified or searched.
- After identifying the first mainline subclass that provides for any portion of the subject matter, scan downward through the schedule, from that subclass, considering only coordinate one-dot subclasses indented under the selected mainline subclass. If you cannot find one that encompasses at least a portion of the subject matter, then the selected mainline subclass is the subclass to use.
- If one of the coordinate one-dot subclasses under the selected mainline subclass provides for at least a portion of the subject matter, then continue to scan downward from the selected one-dot subclass, considering only coordinate two-dot subclasses indented under the selected one-dot subclass. If you cannot find one that encompasses at least a portion of the subject matter then the selected one-dot subclass is the subclass to choose.
- As long as you continue to find further indented subclasses that provide for at least a portion of the subject matter, continue to successively select them for consideration.
- When you can no longer find another indented coordinate subclass that provides for the subject matter, then the last subclass selected is the subclass where the subject matter is classified, or the subclass to be searched for the subject matter.

#### Example

Suppose the “invention” we need to classify is a combination cellular telephone, laser pointer, and printer. The following is a hypothetical USPC class that provides for this combination.

- 1 PROGRAMMABLE CONTROL
- 2 SAFETY DEVICE

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- 3 . Ground fault detector
- 4 PLURAL DIVERSE ELECTRICAL SYSTEMS
- 5 . Printer and television
- 6 . Cellular telephone
- 7 . . With camera
- 8 . . . With illuminating means
- 9 . . With recording means
- 10 . Pointer
- 11 PRINTER

The first step to classifying this hypothetical invention is to find the first mainline subclass, scanning downward from the top of the schedule, which covers a cellular telephone, a laser pointer, a printer, or any combination of these. We can rule out subclass 1, PROGRAMMABLE CONTROL, since our device doesn't have this feature. Likewise, it isn't a safety device so we can also rule out subclass 2. Subclass 4, PLURAL DIVERSE ELECTRICAL SYSTEMS, is the first mainline subclass that appears to cover our invention, which is a combination of three different electrical systems. We select subclass 4.

Now that we've selected subclass 4, we continue to scan downward, looking now only at the one-dot subclasses indented under subclass 4 until we find one that covers at least a portion of the invention. Subclass 5 is the first on-dot subclass. Subclass 5 covers the combination of printers and televisions. Our device has a printer, but no television. Therefore, our device does not have "at least" the subject matter required for classification in subclass 5. The next one-dot subclass under subclass 4 is subclass 6, Cellular telephone. Our invention has "at least" a cellular telephone, which is the subject matter required for classification in subclass 6, so we select subclass 6.

Next, we scan downward from subclass 6, looking only at the two-dot subclasses indented under subclass 6, until we find one that covers some feature of our invention. Subclass 7 is the first two-dot subclass indented under subclass 6. Subclass 7 requires a camera, which our invention does not have. Therefore, we skip subclass 7 and look at the next two-dot subclass indented under subclass 6, which is subclass 9. Subclass 9 requires a recording means. Our device includes a printer, and a printer is a recording means. Therefore, subclass 9 covers at least a portion of the subject matter of our device and we select subclass 9.

Since there are no three-dot subclasses indented under subclass 9 for us to consider, our classification process for the combination cellular telephone, laser pointer, and printer is complete. The last selected subclass was subclass 9, and that is where we would classify a document claiming that combination. If there were some novel aspect of the laser pointer or the printer, per se, we might also assign classifications to subclass 10, Pointer or subclass 11, PRINTER. It would be impermissible to assign a classification to subclass 8, With illuminating means, even though our device includes a laser pointer (which is an illuminating means), because our device does not include a camera, which is

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necessary for everything classified in subclass 8, which is indented under subclass 7, With camera.

### 1.8 USPC as a Routing Tool

The assignment of patent applications to patent examiners for the purpose of examination is made at the discretion of each Technology Center. Traditionally, the USPC has been used as a tool for routing new applications to the appropriate personnel for examination. Each USPTO examining art unit (an organizational unit of patent examiners and a supervisory patent examiner) is responsible for a set of subclasses in the USPC and is staffed with personnel qualified to examine the technology classified in those subclasses. Patent applications classified in particular subclasses are generally examined by the examining personnel responsible for those subclasses. This helps ensure that applications are consistently assigned to personnel qualified to examine them. With a few exceptions, patent applications are assigned for examination purposes to the art unit responsible for the subclass that would receive an OR classification if the application were a patent.

### 1.9 Reclassification of the USPC

**Reclassification** is the process of changing classifications assigned to documents classified in the USPC. A **reclassification project** is a means for changing the USPC by creating, abolishing, or modifying one or more USPC class schedules and reclassifying the documents classified therein. The terms “reclassify” and “reclassification” are used synonymously to refer to the process of performing a reclassification project, as in “the art needs to be reclassified,” meaning that a particular body of subject matter in the USPC requires a reclassification project.

Reclassification is a necessary correction of the USPC to maintain efficient and meaningful search opportunities as the number of documents classified in USPC grows and the breadth of the technologies covered by those documents becomes more diverse. When the number of documents classified in a particular subclass becomes too large to efficiently search, the subclass can be broken down into a group of new subclasses with each having fewer classified documents. New classes and subclasses can be created in USPC to cover newly evolving technologies. Reclassification is used to provide new classes and subclasses for searching what’s important in an art as the “important” subject matter changes through innovation. Additionally, reclassification projects offer opportunities to **harmonize** the USPC with the other major patent document classification systems in use today.

Every reclassification project has essentially six different phases. These are:

**OVERVIEW OF THE U.S. PATENT CLASSIFICATION SYSTEM (USPC)**

- Project plan development and maintenance
  - Based on an initial determination of the subclasses involved in a reclassification project and the number of documents classified in them, project milestones are determined using a project plan template.
- Project scope definition
  - From the subclass titles and definitions of the art encompassed by the project and from reviewing other close art, a precise statement of project scope is written that defines the metes and bounds of the project, so as to distinguish the art in the project from other, similar arts.
- Initial classification schedule and definitions
  - Using both Examiner input and schemes of related arts from IPC, ECLA, and FI as guidance, test schedules and definitions are constructed that cover the invention information within the defined scope of the project.
- Schedule testing
  - Test schedules are “tuned” for uniform document distribution, with new concepts added as needed, with deference to Examiner input, prior to “freezing” the schedules and finalizing their definitions.
- Document placement - reclassify all documents into new schedule
  - All U.S. patent documents within the defined scope of the project are assigned mandatory classifications within the new schedules corresponding to their disclosed invention information and discretionary classifications for useful other, non-invention subject matter. Foreign documents are reclassified on a case-by-case basis.
- Project documentation development - prepare classification order (documentation to effect the changes)
  - A reclassification order is prepared listing all the changes to the USPC encompassed by the project.

After a reclassification order publishes, there are generally newly published patent documents with classifications that were abolished by the project. Cleanup for the project involves reclassifying these documents into the newly created schedules.