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IPC REVISION WORKING GROUP

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GUIDELINES ON THE REARRANGEMENT OF THE MAIN GROUPS
ACCORDING TO THE STANDARDIZED SEQUENCE

Document prepared by the Secretariat

1. At its eighth session, held in December 2002, the IPC Revision Working Group discussed a number of projects on the rearrangement of main groups according to the standardized sequence. On the basis of these discussions, the Working Group made several recommendations to the rapporteurs for preparing proposals.
2. The Working Group invited the United States of America to prepare detailed guidelines on the rearrangement of main groups incorporating those recommendations.
3. The Annex to this document contains the said Guidelines submitted by the United States of America.
4. *The Working Group is invited, upon consideration of the proposal contained in the Annex to this document, to approve the Guidelines on the Rearrangement of the Main Groups.*

[Annex follows]

E

ANNEX

| | |
|---|-------------------------|
| United States Patent and Trademark Office | |
| WIPO Revision Working Group | |
| Topic: Guidelines for rearrangement of main groups | Date: February 11, 2003 |

Rapporteur Report on Guidelines for Rearrangement of Existing Scheme Main Groups Based on Standardized Sequence Principles

The Reform Working Group has agreed to arrange new classification schemes, whenever possible, in a standardized sequence. The standardized sequence arrangement is based on the relative complexity or degree of specialization of the invention information covered by the various main groups of a scheme. Furthermore, the Revision Working Group has agreed that the main groups of existing subclass schemes should be alternatively viewable to users arranged in a sequence based on the principles of the standardized sequence (IPC/WG/8/8 paragraphs 25 – 33). The WG has also required that existing limiting references and precedence references “should be considered when establishing the rearranged order of main groups”.

US volunteered to create and submit “guidelines on the rearrangement of main groups”. However, the requirement to consider existing references and notes will often prohibit the use of ‘pure’ standardized sequence principles when rearranging the main groups of many existing subclass schemes. Therefore, Rapporteur has created and used the term ‘top-down sequence’ in the proposed Guidelines to distinguish it from the approved and defined “standardized sequences”.

These guidelines should be used **only** for subclasses where the “best-fit selection rule” is used to select the appropriate main group for invention information. It is impractical to use them for rearranging main groups in a scheme with a standard priority rule, since relocating groups would violate their relative precedence. For subclasses now using the “first-place priority rule” to select the appropriate main group, the existing sequence should be used as the ‘top-down sequence’. For the subclasses using the “last-place priority rule” to select the appropriate main group, the existing sequence should essentially be inverted and used as the ‘top-down sequence’. The Trilateral Offices approved this approach at their last meeting and US has agreed to use these arrangements in place of the standardize sequence in these situations.

The practical implication for Offices already assigned subclasses to rearrange in Annex G, is that for subclasses using the “last-place priority rule” they should essentially invert the scheme to create their top-down sequence.

Top-down Sequence Variations from Standard Sequence

The proposed top-down sequence guidelines differ in two significant respects from the ‘pure’ standardized sequence (see attached Annex I for approved standardized sequence).

The concept of ‘multi-part’ titles, where each part can be interpreted as if it “stands alone” when determining a classification’s scope (see paragraph 25 of the Guide), is not covered in the standardized sequence. When a subclass has a multi-part title and each main group relates only to a particular part of the subclass title, using the standardized sequence without modification will result in an undesirable mixing of main groups. In this situation, the top-down sequence for the entire subclass should be subdivided into distinct portions for each independent part. The philosophy of the standardize sequence is then separately applied to each portion. Step 1 of the Guidelines (see attached Annex II) is used for this purpose, but its use is optional.

In addition to this difference, because of the concept of ‘unity of invention’, the invention information covered within the scope of IPC subclasses is much more likely to include two or more of the five distinct ‘categories of invention’ than its USPC equivalent for which the standardized sequence was initially developed.

Rapporteur has suggested that the main groups of the scheme, when they cover different categories of invention, be arranged in the top-down sequence in the following order: 1st methods of using products, 2nd products, 3rd processes of making products, 4th apparatus used to make products, and 5th materials from which products are made. When main groups contain two or more of these categories of invention, they appear in the standardize sequence based on the highest category in this ordering. Step 2 of the Guidelines is used for this purpose, but its use is optional.

This particular ordering is useful because main groups that frequently share at least one common category of invention are collected together in the sequence. Normally, in the IPC the ‘method of using a product’ that is not a manufacturing apparatus (i.e., tools or a machines for doing work on material) is most commonly found with its product. For example, a main group titled “automobile brakes” implicitly covers both the product ‘brakes for automobiles’ and the method of using the product ‘braking an automobile’. However, in schemes where a ‘multi-aspect’ main group(s) is included based on a ‘method of using a product’, the essentially distinct schemes can remain separated in the sequence.

Rapporteur has tested the proposed Guidelines on several already approved rearrangements of main groups and the results were essentially the same (see attached Annex III). Hopefully these examples are useful to other Offices.

Annex I

Standardized Sequence of Main Groups in IPC Subclasses

The subject matter generally proceeds from most complex to less complex, namely from combinations to basic subclass subject matter to details and elements of the subclass subject matter. Classifications which are within a category of highly specialized subject matter are placed at the top of the scheme to ensure that their subject matter is emphasized.

Highly specialized

(Examples of subject matter types which may be found in this category are condition responsive control, measuring and testing, unique basic subject matter, convertible.)

Combinations

(Examples of subject matter types which may be found in this category are combinations with subject matter found in different subclasses and combinations with subject matter found in different groups within the subclass.)

Basic subclass subject matter

(This category may include plural basic subject matter, basic subject matter having features for different functions, basic subject matter having features to perfect.)

Details of basic subclass subject matter

(Examples of details which may be found in this category are subject matter parts and elements.)

Production or treatment of basic subclass subject matter

Miscellaneous

(This residual classification is needed if the groups of the subclass are not obviously exhaustive.)

Annex II

Guidelines for the Rearrangement of Main Groups According to the Top-down Sequence

After a complete review of each subclass scheme and definitions, classifiers should successively utilize the following steps to arrange the main groups of schemes that do not follow a standardize priority rule (i.e., schemes using the best-fit selection rule) into a top-down sequence:

1. Determine if the subclass title is of the multi-part type (i.e., the title consists of two or more distinct parts that are separated by a semicolon) in which each part may be interpreted as if it 'stood alone' (i.e., could be used as the title of its own subclass).
[Utilization of this step is encouraged when appropriate, but optional.]
 - (a) If there is essential overlap between the invention information covered by the distinct parts (i.e., the distinct parts of the title share an essential purpose or structure, as shown for example by a main group covering common invention information for the multiple parts), then go to step 2.
 - (b) If there is no essential overlap between the invention information covered by the distinct parts of the subclass title, and each main group relates to only a specific part of the subclass title (except for those types of main groups covered by steps 9 & 10), then the related main groups for each part are collected together within the top-down sequence (i.e., the sequence is divided into specific regions for each collection). Temporary explanatory 'headings' may be used to show the division of the sequence into its distinct parts, but these headings are removed from the official rearrangement of main groups.
 - (c) The collections of main groups for each part of the subclass title are positioned separately in the scheme, with the most complex part's collection at the top and the least complex part's collection at the bottom. Complexity here may be based on purpose or structure.
 - (d) The main groups within each separate collection (i.e., the groups representing a part of the multi-part title) are arranged according to the guidelines below (steps 2-10).

2. Determine if the main groups of the scheme cover the same or different categories of invention. The categories of invention are: Method of Use (of Product), Product (of Manufacture), Method of Making a Product, Apparatus (to make the product or perform the method of making), and Material used to make the product. *[Utilization of this step is encouraged when appropriate, but optional.]*
 - (a) If **all** of the main groups cover the same, or at least one common, category or categories of invention, then go to step 3.
 - (b) If some of the main groups do not cover a common category of invention, divide these groups into distinct categories of invention collections (i.e., separate into collections that do not share a common category or categories of invention). Collect main groups together that cover at least one common category of invention within the top-down sequence or the appropriate segment

- of the sequence for their specific part of a multipart title (e.g., groups for products followed by groups for methods of making the products in the sequence).
- (c) Position the categories of invention that are covered by a subclass in the top-down sequence, or their part's segment of the sequence, in descending order normally as listed above for categories of invention. For example, in E01D the methods and apparatus for building or repairing bridges are located below the various types of bridges in the top-down sequence of main groups for the scheme.
 - (d) If a single main group covers two or more categories of invention (e.g., slide fasteners, making slide fasteners), then the main group is positioned in the highest relevant portion of the top-down sequence providing for one of its categories (e.g., slide fasteners).
 - (e) Main groups covering the same category or categories of invention are arranged according to the steps 3–10 below.
3. Determine if one or more of the main group titles has multiple distinct parts of different complexity or level of specialization. [*Utilization of subsection (b) is encouraged when appropriate, but optional.*]
- (a) Groups having multiple distinct parts are usually positioned in the relevant portion of the top-down sequence based upon the part of their title that covers the most complex or highly specialized invention information.
 - (b) If it is beneficial to split, and locate in different portions of the sequence, the invention information covered by a main group title having distinct parts of different complexity or level of specialization: the main group can be split in special situations. It is considered appropriate to split the invention information of a main group when there is no essential overlap between the invention information covered by the distinct parts of the main group title and one or more of the one-dot indentation level subgroups completely and separately covers the invention information for a distinct part of its main group title. When this happens, the distinct part(s) of the main group title may be separately located in the sequence based on steps 4-9 below. The classification symbol of the main group (e.g., 15/00) is used to locate the residue parts of the title and the appropriate one-dot indentation level subgroup symbol(s) (e.g., 15/14) is used to locate the separated out part of the title.
4. Determine if any main group contains invention information that is 'highly specialized' and place it at the top of the appropriate relevant portion of the sequence. Highly specialized invention information accomplishes a function that is not inherent or common for the subject matter of the subclass. For example, main groups A61G 10/00 and 11/00 include highly specialized life supporting or sustaining accommodations that are not common within the "accommodations for patients" normally covered by the subclass title.

5. Determine if any main groups provide for combinations of 'basic invention information' (i.e., those 'things' that by themselves accomplish the primary purposes or functions stated in the subclass title and definition statement) with invention information proper for another subclass (i.e., a larger or more extensive system than is commonly found in the subclass).
 - (a) If this type of combination main group exists, it is placed in its relevant portion of the sequence directly after any groups having highly specialized invention information.
 - (b) If there are two or more of these main groups and there is no overlap or precedence reference between them, the main group covering the larger system is placed before the other(s).
 - (c) If there are two or more of these main groups and there is potential overlap between them, the most specialized main group is placed before the other(s) unless a precedence reference exists. When a precedence reference exists, the preferred order is altered to show the precedence (i.e., the group having precedence comes first in the sequence) and the precedence reference is shown with the group's title. If this is impractical, then the precedence reference is merely shown with the group's title.

6. Determine if any main groups explicitly provide for combinations of the basic invention information specified in other main groups within the subclass.
 - (a) If such a main group exists, it is placed in its relevant portion of the sequence directly after the groups already placed in the preceding steps.
 - (b) If there are two or more of these main groups and there is no possible overlap or precedence reference between them, the main group covering the larger system is placed before the other(s).
 - (c) If there are two or more of these main groups and there is potential overlap between them, the most specialized or largest system main group is placed before the other(s) unless a precedence reference exists. When a precedence reference exists, the preferred order is altered to show the precedence (i.e., the group having precedence comes first in the sequence) and the precedence reference is shown with the group's title. If this is impractical, then the precedence reference is merely shown with the group's title.

7. Determine the main groups that provide for the basic inventive information of the subclass.
 - (a) If such main groups exist, the main groups covering the basic invention information of the subclass are placed in the relevant portion of the sequence directly after the groups already placed in the preceding steps.
 - (b) If the main groups cover different functions, the main group covering the most specialized or complex function is placed before the others unless a precedence reference exists. When a precedence reference exists, the preferred order is altered to show the precedence (i.e., the group having precedence comes first in the sequence) and the precedence reference is shown with the group's title. If this is impractical, then the precedence reference is merely shown with the group's title.

- (c) If main groups that cover the same function, they are collected together and arranged so that the main group having the most specialized structure or largest system is placed before the other(s) unless a precedence reference exists. When a precedence reference exists, the preferred order is altered to show the precedence (i.e., the group having precedence comes first in the sequence) and the precedence reference is shown with the group's title. If this is impractical, then the precedence reference is merely shown with the group's title.
8. Determine if there are detail main groups, component main groups, accessories or ancillary device main groups, or 'residual subject matter' main groups that are related to only one of the distinct sections of the subclass title.
- (a) If such main groups exist, these main groups are placed directly after the main groups already placed in the preceding steps for which they collect specialized details, components, accessories, ancillary devices, or provide for residual subject matter. If there are main groups of two or more of the types specified, they are ordered as they are listed in the introduction of this step with detail main groups first and the most residual main group last.
- (b) The main groups for the same purpose (e.g., they all cover components) are then arranged so that the main group having the most specialized structure or largest system is placed before the other(s) unless a precedence reference exists. When a precedence reference exists, the preferred order is altered to show the precedence (i.e., the group having precedence comes first in the sequence) and the precedence reference is shown with the group's title. If this is impractical, then the precedence reference is merely shown with the group's title.
9. Determine if there are detail main groups, component main groups, accessories or ancillary device main groups, or 'residual subject matter' main groups that are related to all or several of the main groups already placed in the preceding steps.
- (a) If such main groups exist, these main groups are placed in the sequence directly after the groups already placed in the preceding steps. They should be ordered as they are listed in the introduction of this step with the most residual main group always at the bottom of the top-down sequence.
- (b) The main groups for the same purpose (e.g., they all cover components) are then arranged so that the main group having the most specialized structure or largest system is placed before the other(s) unless a precedence reference exists. When a precedence reference exists, the preferred order is altered to show the precedence (i.e., the group having precedence comes first in the sequence) and the precedence reference is shown with the group's title. If this is impractical, then the precedence reference is merely shown with the group's title.
10. If there is additional invention information that is potentially within the coverage of the subclass title that is not covered by an existing main group, a new main group residual to the subclass should be created.

Annex III

Example Subclasses Arranged in
Top-down Sequence Using Guidelines

| Chart Showing When Guideline Steps for Tested Examples Impacted Ordering of Top-Down Sequence | | | | | | | | |
|--|---------------------------|------|------|------|------|------|------|------|
| Guideline Steps | <u>Example Subclasses</u> | | | | | | | |
| | A44B | A61B | B61L | B81B | B81C | B82B | E01D | F23G |
| Step 1 | No | Yes | No | No | No | Yes | No | Yes |
| Step 2 | No | Yes | No | No | No | Yes | Yes | No |
| Step 3 | No | Yes | Yes | No | No | No | Yes | Yes |
| Step 4 | Yes | Yes | No | No | Yes | No | Yes | Yes |
| Step 5 | No | No | No | Yes | No | No | No | No |
| Step 6 | No | No | No | No | No | No | Yes | No |
| Step 7 | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes |
| Step 8 | No | No | Yes | No | No | No | Yes | No |
| Step 9 | Yes | Yes | No | No | Yes | No | No | No |
| Step 10 | Yes | Yes | Yes | No | No | No | Yes | Yes |

Example 1 - Approved Top-down Sequence for A44B

BUTTONS, PINS, BUCKLES, SLIDE FASTENERS, OR THE LIKE

| Main groups of subclass in top-down sequence | | |
|--|-------|---------|
| Fasteners or Retainers Specially Adapted as Accompaniments for Garments | | |
| Retainers or tethers for neckties, cravats, neckerchiefs, or the like | 6/00 | Step 4 |
| Collar-studs | 3/00 | Step 4 |
| Sleeve-links | 5/00 | Step 4 |
| General Use Fasteners | | |
| Slide fasteners | 19/00 | Step 7b |
| Fasteners of the touch-and-close type; Making such fasteners | 18/00 | Step 7b |
| Buckles; Similar fasteners for interconnecting straps or the like | 11/00 | Step 7b |
| Press-button or snap fasteners | 17/00 | Step 7b |
| Hook or eye fasteners | 13/00 | Step 7b |
| Hat, scarf, or safety pins or the like | 9/00 | Step 7b |
| Buttons | 1/00 | Step 7b |
| Other clamping or holding devices | 21/00 | Step 7b |
| Other devices | | |
| Key-rings | 15/00 | Step 7b |
| Accessories and Ancillary Devices | | |
| Cards for buttons, collar-studs, or sleeve-links | 7/00 | Step 9 |
| New residual main group needed obviously for the 'or the like' | ? | Step 10 |

Example 2 - Approved Top-down Sequence for A61B

DIAGNOSIS; SURGERY; IDENTIFICATION

| Main groups of subclass in top-down sequence | | |
|---|--------------------------|---------------------------|
| Surgery | Step 1-b,c,&d | |
| Surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body | 18/00 | Step 2a, Step 4 |
| Surgical instruments, devices or methods | 17/00 | Step 2a, Step 7c |
| Devices specially adapted for vivisection or autopsy | 16/00 | Step 2a, Step 7c |
| Diagnosis | Step 1-b,c,&d | |
| Apparatus for radiation diagnosis | 6/00 | Step 2a, Step 4 |
| Diagnosis using ultrasonic, sonic or infrasonic waves | 8/00 | Step 2a, Step 4 |
| Instruments for performing medical examinations of the interior of cavities or tubes of the body by visual or photographic inspection; Illuminating arrangements therefor | 1/00 | Step 2a, Step 3a, Step 7c |
| Apparatus for testing the eyes; Instruments for examining the eyes | 3/00 | Step 2a, Step 3a, Step 7c |
| Instruments for auscultation | 7/00 | Step 2a, Step 7c |
| Measuring for diagnostic purposes | 5/00 | Step 2a, Step 7c |
| Instruments for depressing the tongue | 13/00 | Step 2a, Step 7c |
| Instruments for examination by percussion; Pleximeters | 9/00 | Step 2a |
| Other methods or instruments for diagnosis; Sex determination; Ovulation-period determination; Throat striking implements | 10/00 | Step 2a, Step 3a, Step 7c |
| Person-Identification | Step 1-b,c,&d | |
| Identification of individuals | 5/00 | Step 7 |
| Accessories and Ancillary Devices | | |
| Instruments, implements or accessories for surgery or diagnosis not covered by any of the groups A61B 1/00 to A61B 18/00 | 19/00 | Step 9a |
| New residual main group needed. It is possible that other forms of identification of people such as by geographical region of origin or race are covered by the subclass title. This is clearly beyond the identification of individuals in main group 5/00. | ? | Step 10 |

This subclass consists of three distinct collections of invention information. Two of them are related to the medical field. In some situations there are overlapping combinations of this invention information. Surgery procedures require physical actions for modifying bodies, but may also include diagnostic steps. The sequence of this scheme was based on the major divisions of this subclass ordered by the extent they effect people's bodies and within divisions on complexity. The main groups for surgery were placed 1st since they involve actual physical modification of or work on bodies (for changing bodies). The main groups involved in diagnosis were placed 2nd since they are used to study the functioning of bodies (for determining how well bodies are working). The group for identification was placed 3rd since it identifies and uses unique characteristics of an individual's body for identification purposes (for analyzing what is unique about a body).

Example 3 - Approved Top-down Sequence for B61L

**GUIDING RAILWAY TRAFFIC: ENSURING
THE SAFETY OF RAILWAY TRAFFIC**

| Main groups of subclass in top-down sequence | | |
|--|-------|--------------------|
| Central or System train control | | |
| Central traffic control systems | 27/00 | Step 7b |
| Station blocking between signal boxes in one yard | 21/00 | Step 7b |
| Switching systems for classification yards | 17/00 | Step 7b |
| Control, warning, or like safety means along the route or between vehicles or vehicle trains | 23/00 | Step 7b |
| Recording or indicating positions or identities of vehicles or vehicle trains or setting of track apparatus | 25/00 | Step 7b |
| Interaction with train | | |
| Devices along the route for controlling devices on the vehicle or vehicle train, e.g. to release brake, to operate a warning signal | 3/00 | Step 7b |
| Operation of points from the vehicle or by the passage of the vehicle | 11/00 | Step 7b |
| Operation of signals from the vehicle or by the passage of the vehicle | 13/00 | Step 7b |
| Devices along the route controlled by interaction with the vehicle or vehicle train | 1/00 | Step 7b |
| Remote control of route devices, including points (switches) | | |
| Remote control of local operating means for points, signals, or track-mounted scotch-blocks (11/00 takes precedence) | 7/00 | Step 7b |
| Points – operation, interlock | | |
| Local operating mechanisms for points or track-mounted scotch-blocks; Visible or audible signals; Local operating mechanisms for visible or audible signals (11/00 takes precedence) | 5/00 | Step 3a, 7b |
| Arrangements for interlocking between points and signals by means of a single interlocking device | 19/00 | Step 7b |
| Signals | | |
| Indicators provided on the vehicle or vehicle train for signaling purposes | 15/00 | Step 7b |
| Others | | |
| Safety means for rail/road crossing traffic | 29/00 | Step 8b |
| Illumination specially adapted for points, form signals, or gates | 9/00 | Step 8b |
| New residual main group needed. | ?/00 | Step 10 |

Reasons for suggested order of IPC main groups:

Central or system train control

27/00 Central traffic control – most comprehensive, complex

21/00 Station blocking between signal boxes in one yard – control and release of route, space between trains

17/00 Switching systems for classification yards – indicating track filling; (ECLA - signaling; brake devices)

23/00 Control, warning, safety means – control of train along route

25/00 Train position indication – multiple train, overall view

Interaction with train

3/00 Route devices control train devices – control of train, can shut off electric motors

11/00 Train interaction controls points (switch)

13/00 Operation of signals from the vehicle or by the passage of the vehicle

1/00 Train interaction controls route devices – control of route devices (refers to 11/00, 13/00)

Remote control of route devices, including points (switches)

7/00 Remote control of points, signals, blocks (11/00 takes precedence)

Points – operation, interlocks

5/00 Local operating mechanisms for points or track-mounted scotch-blocks; visible or audible signals (11/00 takes precedence)

19/00 Arrangements for interlocking between points and signals by means of a single interlocking device

Signals

15/00 Indicators on train for signaling – including between carriages

Other

29/00 Safety means for rail/road crossing traffic – includes non-train traffic

9/00 Illumination

Example 4 - Approved Top-down Sequence for B81B

**MICRO-STRUCTURAL DEVICES OR SYSTEMS,
e.g. MICRO-MECHANICAL DEVICES**

| Main groups of subclass in top-down sequence | | |
|---|------|---------|
| Micro-structural systems | 7/00 | Step 5a |
| Devices comprising elements which are movable in relation to each other | 5/00 | Step 7c |
| Devices comprising flexible or deformable elements | 3/00 | Step 7c |
| Devices without movable or flexible elements | 1/00 | Step 7c |
| No residual main group needed | | |

Example 5 - Approved Top-down Sequence for B81B

**PROCESSES OR APPARATUS SPECIALLY ADAPTED
FOR THE MANUFACTURE OR TREATMENT OF
MICRO-STRUCTURAL DEVICES OR SYSTEMS**

| Main groups of subclass in top-down sequence | | |
|---|------|---------|
| Assembling of devices or systems from individually processed components | 3/00 | Step 4 |
| Manufacture or treatment of devices or systems in or on a substrate | 1/00 | Step 7a |
| Residual processes or apparatus not otherwise provided for in this subclass | 5/00 | Step 9a |

Example 6 - Approved Top-down Sequence for B82B

**NANO-STRUCTURES; MANUFACTURE
OR TREATMENT THEREOF**

| Main groups of subclass in top-down sequence | | |
|---|------|----------------|
| Nano-structures | 1/00 | Step 2 a, b, c |
| Manufacture or treatment of nano-structures | 3/00 | Step 2 a, b, c |
| No residual main group needed | | Step 10 |

Example 7 - Approved Top-down Sequence for E01D (group 1/00 was moved below group 19/00 based on the proposed guidelines)

BRIDGES

| Main groups of subclass in top-down sequence | | |
|--|-------|----------------------------------|
| Bridges specially adapted for particular applications or functions not provided for elsewhere | 18/00 | Step 2 b, c Step 4 |
| Floating bridges | 15/14 | Step 2 b, c Step 3b Step 4 |
| Movable or portable bridges | 15/00 | Step 2 b, c Step 3b Step 4 |
| Bridges characterized by a combination of diverse types of stationary bridges | 12/00 | Step 2 b, c Step 6a |
| Types of bridges | | |
| Suspension or cable-stayed bridges | 11/00 | Step 2 b, c Step 7c |
| Truss-type bridges | 6/00 | Step 2 b, c Step 7c |
| Arch-type bridges | 4/00 | Step 2 b, c Step 7c |
| Bridges characterized by the cross-section of bearing spanning structure | 2/00 | Step 2 b, c Step 7c |
| Structural or constructional details of bridges | 19/00 | Step 2 b, c Step 8a |
| Bridges not provided for elsewhere in the subclass (residual bridges) | 1/00 | Step 2 b, c Step 8a |
| Method of Making Bridges | | |
| Methods or apparatus for repairing or strengthening existing bridges | 22/00 | Step 2 b, c Step 4 |
| Methods or apparatus specially adapted for erecting or assembling bridges | 21/00 | Step 2 b, c Step 7a |
| Residual main group <u>may</u> be needed. Although group 1/00 cover any possible remaining types of bridges, there does not seem to be a place for accessory or ancillary devices. | | Step 10 |

Example 8 - Approved Top-down Sequence for F23G

CREMATION FURNACES; CONSUMING WASTE BY COMBUSTION

| Main groups of subclass in top-down sequence | | |
|--|------|--|
| Furnaces for cremation of human or animal carcasses | 1/00 | Step 1 b & c |
| Incinerators or other apparatus for consuming industrial waste, e.g. chemicals | 7/00 | Step 1 b & c and step 4 |
| Incineration of waste; Incinerator constructions; Details, accessories or control therefor | 5/00 | Step 1 b & c, step 3a, and step 7 |
| Residual main group <u>may</u> be needed. There does not seem to be a place for details, accessories or controls for cremation furnaces. | ?/00 | Step 10 |

Since there is no obvious way of ordering of the main groups based on complexity, the proposed reordering of the main groups of F23G is based on how specific and unique the fuels are. [*New rule seem to have taken care of this problem and give the same results.*]

[End of Annex and of document]