

# The Patent Office

## CLASSIFICATION KEY

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## NOTES ON THE USE OF THE CLASSIFICATION KEY

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**Notes on the use of the  
Classification Key**

## **Introduction**

1. Since it is difficult to make use of the Classification Key without an understanding, of its primary purpose, the way in which it has developed and how it is to be interpreted, the user is advised to read the following notes. The notes are arranged in several sections, namely:

Purpose of the Key

General form of the Key at heading level; relationships with other classifications

Classifying and Indexing within a heading

General form of headings; interpretation

Form of unreconstructed headings

Principles of reconstruction; organisation of reconstructed headings

Subject-matter recorded for search purposes

Use of the Key

History of the Classification Key; background

2. In these notes "classifying" (or "classification") is used both in the sense of (i) assigning a technical disclosure (and so the document containing it) to a primary division (heading) of the Classification Key, and (ii) in the sense of representing this disclosure as a whole by means of an appropriate descriptive entry within a heading (*IE a term*) and its corresponding *code* (*see* paragraphs 8 and 15).

## **Purpose of the Key**

3. The Classification Key has been developed to enable the official search to be made. Although it is not designed for use as an index (providing access to all references to any given particular subject) or for infringement searches it may be of considerable assistance in meeting such needs. The structure of the Key has of course always been influenced by the character of the statutory search laid down under the various Acts of Parliament, and so in some respects the wider requirements of an obviousness search will not always have been met during that part of its development period before an obviousness search became an official search requirement. However,

in the so-called "reconstructed" headings (*see* paragraphs 27-47), attention has been paid to the requirements of obviousness searching and within these to the requirements of search for novelty.

### **General form of the Key at heading level; relationships with other classifications**

4. The Key is divided into eight *Sections* A to H corresponding closely to the sections of the international Patent Classification (Int. Cl.). Each Section has a number of *Divisions* identified by the section letter and a number, *eg* A1, B2. In each Division there are a number of *headings* identified by the Division letter and number and a further (heading) letter, *eg* A1A, B2E. Headings are arranged in each Division in alphabetical order of the heading letter. One, two or three adjacent Divisions form the basis of each of the 25 units in which the Key is issued and in which the patent abstracts (and, prior to the introduction of the Patents Act 1977, the abridgment volumes) are published. All headings are provided with a short title which is not definitive but merely broadly indicative of the subject-matter content of the heading. In addition there is a heading UIS in the form of an indexing schedule designed to record use and utility of inventions and properties of new or modified materials (*see* paragraphs 56 to 58) which is issued in the form of a separate pamphlet and is included free with a purchase of one or more of the Key units described above.

5. A full list of the Key Sections, Divisions, headings and units is available as a free leaflet entitled "Structure of the Classification Key" which is published separately.

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6. An approach to the classification and indexing of inventions and technical disclosure that is more systematic than earlier approaches (*see* History of the Classification Key &c, paragraphs 76 to 85) is used in the so-called "reconstructed" headings, and is explained in paragraphs 27 to 47.

7. When a heading is revised or a new heading is created the International Patent Classification (Int. Cl.) is examined to see whether it has a sub-class which would be satisfactory as a basis for the new or revised heading. If so, and there are not compelling reasons to the contrary, the heading will be arranged to correspond closely to the Int. Cl. sub-class and if possible the classifying

schedule (*see* paragraph 30) will be arranged to have some correspondence with the In[. Cl. groups and sub-groups.

### **Classifying and Indexing within a heading**

8. The Classification Key provides, within each heading, a set of *descriptive entries* corresponding to aspects of the technical content of the heading; these descriptive entries by which the technical disclosures in documents can be recorded are referred to as *terms*. There always appears to have been two distinct practices in assigning these terms to documents, and these still apply.

8(i). In one practice, here defined as *classifying*, an examiner is required to assign a term which embraces the technical subject to which the *invention* (or other significant disclosure-*see* paragraph 51) relates. This requires the *inventive concept or idea* to be identified, and matched with the classifying term that embraces it; identification of the inventive concept is effected by using any statements by the Applicant relating to what has been invented, together with the knowledge, expertise and judgement of the examining staff. When no single term covers the whole scope of an inventive concept, classification by all appropriate terms is effected. Matter peripheral to the inventive concept, even if appearing in a or the main claim, is in general not taken into account in this classifying procedure, unless the classifying terms themselves reflect such matter (*see* paragraphs 53-55). Peripheral matter, and other information such as properties, uses, area of application and details of the invention, may be recorded by means of *indexing* (*see* paragraph 8(111)). Significant disclosure other than an invention is treated analogously to the above. (*See also* paragraph 52.)

8(ii). Thus in heading F2P, Pipes and tubes, classifying term PP4, "self-sealing *eg* when punctured", is only assigned to documents *essentially concerned* with self-sealing of a pipe or tube and is not assigned for a disclosure, essentially concerned with some other feature of a pipe or tube, but which describes or makes reference to self-sealing or to some aspect of self-sealing not in itself significant.

8(iii). In the second practice, here defined as *indexing*, a term is assigned to a document for *a* or

any statement therein in correspondence with the term; the statement will often reflect only a part of the disclosure and the term will usually be assigned without regard to novelty or significance of the statement. For example in heading F2P, Pipes and tubes, indexing term PIB7K. "polystyrene", is assigned for an disclosure of polystyrene as a material of or for a pipe or tube, irrespective of the construction, manufacture or treatment of a pipe or tube which is the subject of the invention, and irrespective of any other indexing terms that may be applied.

9. It is emphasised that in any heading or part of a heading which has related classifying *and* indexing schedules, at least one classifying term must be assigned, *IE* indexing terms cannot be assigned on their own.

### **General form of headings; interpretation**

10. The features described in paragraphs 11 to 20 relate to headings in general. Features specific to "unreconstructed" headings or 'reconstructed" headings are described in paragraphs 21 to 26 and 27 to 47, respectively.

### Heading introductions

11. Each heading is provided with an introduction indicating the *subject-matter embraced* and relationships with other headings. Its form varies according to whether the heading is unreconstructed (*see* paragraphs 23 and 24) or reconstructed (*see* paragraphs 39 to 42).

12. In either case, the introduction generally contains a number of *excluding references*, *IE* references to other headings indicating matter excluded from the heading and to be found instead in those other headings. Further excluding references may appear under specific terms appearing after the heading introduction.

13. The excluding references appearing in a heading are not exhaustive, as processes, materials, or mechanical or electrical elements or devices which are disclosed in a document with regard to one particular purpose are in many cases clearly more widely applicable than can appropriately be

classified in a heading that is restricted in scope by virtue of being defined in terms of that purpose only. Cross-references to a more appropriate "general" heading are normally omitted in such cases.

Examples of matter classified in "general" headings to which reference from other headings is not usually considered necessary are:

materials such as alloys, chemical compounds, coated products, fabrics and laminates; processes such as moulding, heating, cooling, drying, mixing, separating;

constructions of apparatus such as buildings, conveyers, furnaces, lamps, electric motors and generators, toys;

machine elements of general usefulness such as bearings, clutches, gearing, transmissions, brakes, linkwork, cams, springs and dampers, pistons, rollers, shafts, valves;

other articles or elements of general usefulness such as bolts, hooks and other fastenings, burners, chains, electric switches, hinges, pivots, pipes; control and signalling systems;

packaging

14. Where certain words or phrases, or symbols such as asterisks, are used in a heading with particular meanings, definitions or explanations of these are given.

### Terms

15. Each term (*see* paragraph 8) is provided with a *code* for identification and record purposes, the first letter of the code being the heading letter of the heading code.

16. The wording of a term is descriptive and as far as possible is such as to be clear in itself. In order to avoid repetition of wording common to more than one term, a system of indentation is used in the Classification Key. It should be noted, therefore, that the wording of a term includes not only the wording appearing opposite its code but also the wording of all less-indented entries that precede that wording, and its scope is qualified by any specific exclusions

indented within it or appearing under any of its less indented wording. Indentation is emphasised in the Classification Key by the use of dots preceding entries.

17. For example, heading A3H, Dress fastenings, jewellery &c, includes the following:

jewellery (*including* methods of making)—

. fastenings of definite type—See buttons &c *and such headings* as E2A, Releasable fastenings:

F2H, Bolts, rivets, nails &c

H2A . brooches and scarf-pin, hat-pin, and like ornamental heads

H6 . charms, pendants, and like ornamental attachments for personal wear

H3 . combination articles of jewellery, and personal ornaments intended to serve useful purposes,

*other than* lockets and articles serving as containers or receptacles

. . attaching watches, purses, and other articles to wearing apparel and person—*See* attachment &c

18. It is seen that this part of the A3H Key deals with inventions in articles of jewellery and *includes* inventions in methods of making these articles, but *excludes definite* types of fastenings.

These inclusions and exclusions are relevant to all entries indented within the entry "jewellery", such as H2A, H6 and H3 *above*.

19. However, code H3 is *not* applied for inventions concerned with, or with the making of, combination articles of jewellery or personal ornaments intended to serve useful purposes, but which are lockets &c as defined in the "other than" note, *nor* for inventions concerned with how articles (otherwise falling within the entry for H3) are attached to a person or their clothing (*see* the 2-dot entry indented within the H3 one-dot entry).

20. In some headings a code is provided not only for the final, most indented, wording but also for wording at a higher level. The wording at the higher level then constitutes a generic term which may be useful for generic search purposes, unless a contrary practice (such as that used

in the International Patent Classification) is said to be used.

### **Form of unreconstructed headings**

21. Unreconstructed headings (and also headings that are small and/or are adequately classified so that formal reconstruction is uneconomic) are recognisable by the presence of the features described in paragraphs 23 and 24.

22. A sample first page of the Key relating to an unreconstructed heading (B31) is shown in Figure 1.

23. The heading is provided with a definition or a list of its subject-matter contents following a standard wording *"This heading comprises only the following subject-matter"*. Following the heading definition there may be a list of specific inclusions after the introductory words *"and embraces"*.

24. After the definition and any specific inclusions there is a list of references to excluded matter which may be general or specific. These references are arranged in alphabetical order either of the wording of the exclusions or of the headings where the excluded matter is to be found. Further excluding references to other headings may appear under specific terms appearing after the heading definition and exclusions.

25. The terms by which subject-matter is classified or indexed within a heading are usually listed, at each level of indentation, in alphabetical order of their wording. In some cases, at each level of indentation there is provided a series of entries in alphabetical order of wording for those topics not covered by the preceding less indented entry, immediately followed by a second series of entries in alphabetical order of wording for those topics which do fall within the scope of the

preceding less indented entry.

26. The rule for the assigning of terms to documents is given in an italic note preceding the list of terms. This note makes clear whether the terms can safely be used in combination for search purposes. In some headings which have some terms used in a non-discretionary manner and others used in a discretionary manner the practice is explained; the terms used in a discretionary manner may be identified by an asterisk.

FIGURE 1

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*This heading comprises only the following subject matter:*

- . joining sheet metal by interlocking formations of the edges thereof, the resultant joint being of substantially uniform cross-section, *including* like joining of sheet metal to non-metallic sheets
- . joining sheet metal by interengaging formations deformed after assembly, the resulting joint being substantially permanent and immovable, *including* like joining of sheet metal to non-metallic sheets
- . automatically assembling can heads and bodies prior to seaming
- . spinning sheet metal
- . tube expanders and flangers
- . jointing by tube expanding
- . internal pipe cutters with radially-adjustable cutting wheels

*and embraces:*

- . soldered seam joints
- . securing can lids by soldering

*but does not include the following subject matter, which is to be found in the headings indicated:*

- . removable rotary workholders—B3B, Machine tool details
- . edge joints *other than* seamed joints—F2M, Structural joints and connections
- . joints having interengaging formations not deformed after assembly—F2M, Structural joints and connections

The exclusion references listed in this heading are not exhaustive. Reference should be made to the appropriate general heading/s for processes, materials, elements or devices which may be more widely applicable than can appropriately be classified in this heading

Relationship with the Universal Indexing Schedules (heading U1S)

In addition to recording the nature of broader processes and apparatus with or in which inventions classified here may be used, U1S is used, subject to its indexing rules, to index useful products obtained

Operative date for Key entries

The operative date of the terms in this heading is earlier than that of Edition A

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*To facilitate searches for combinations of features, throughout this heading each*

*feature is indexed for which a coded term is available, irrespective of novelty*

- seaming and joining metal sheets—
  - . applying liquid or plastic jointing-materials *other than* solder. *See* B2E, Coated products; B2L, Coating-apparatus
  - . blowpipes, blowpipe and other burners, and burner fittings. *See* F4T, Burners &c
  - . brakes and brake-actuating mechanism, construction of. *See* F2E, Brakes &c; F2F, Controlling brakes &c; H2A, Dynamo-electric machines &c
  - . tube expanders. *See* tube expanders &c
- J2A . actuating and controlling mechanism for machines
- J6 . apparatus for performing seaming and also one or more other operations (*other than* mere attachments designed for separation from machine)
- J2B . blanks and finished articles, transferring
  - . . feeding separate like articles in succession automatically from hoppers by picker arms or shoots and from conveyers, magazines, and shoots by escapements or like controlling devices. *See* B8A, Conveyers &c; B8U, Dispensing discrete articles
- J7 . deforming interengaging formations after assembly
  - . . deforming joints for the ends of metal ties for bales and the like. *See* B6P, Writing-appliances &c
  - . . joining by eyelets and rivets and by punching up and riveting over annular burrs. *See* B3U, Riveting &c
- J2C . dies
  - . . rip seam, making. *See* machines &c
- J2D . electric heating, applications of
- J3 . joints

L/K

B3J—1

## Principles of reconstruction; organisation of reconstructed headings

### Principles of subject-matter grouping

27. In reconstructed headings the principle followed is that of **classification by central characteristic**, so that classification is in accordance with the technical subject with which an inventive disclosure is essentially and immediately concerned (see paragraph 8), and thus technically similar subject-matter is more efficiently grouped. A strong attempt has been made to restrict reconstructed headings to subject-matter at a small number of adjacent organisational levels only (*,see* paragraphs 43 to 47) and to make a heading substantially complete at that or those levels, by suitable transfer of subject-matter if necessary. The interdependence of headings has always been recognised by the existence of headings for certain unit operations and elements of broad applicability and utility (*,see* paragraph 13) but the recognition of and provision for further unit operations and elements, each comprising a single level of organisation, for example, unit processes in polymer technology, multiplexing techniques in telecommunications, and tape and film cassettes and cartridges, is an important aspect of reconstruction.

28. Because of the complexity and interdependence of areas of technology, headings are not always substantially complete in their coverage of individual levels of organisation of technology, with the result that similar subject-matter may be found in more than one heading: this situation is recorded in the various headings, usually by an "affinity of subject-matter" note directing the searcher to the other appropriate heading(s). In such instances, efficiency of searching, especially for obviousness is usually better served by searching the various headings than by attempting full multiple classification.

29. A heading may be divided into separate parts for separate areas of reconstructed subject-matter. In some instances, not all of the subject-matter of a heading has been reconstructed (*eg* where complete reconstruction is considered unnecessary or uneconomic), and a heading may be divided into parts to segregate reconstructed from unreconstructed subject-matter-

### Classifying and Indexing Schedules

30. The different practices of assigning terms representing technical disclosure are regularised by the use of separate classifying and indexing schedules in reconstructed headings. The terms in the classifying schedules identify isolatable technical subjects in which inventions occur and reside and are assigned when it is considered that they embrace an invention or other significant disclosure (see paragraph 8). The terms from the indexing schedules are assigned, usually in a non-discretionary manner, for disclosure of corresponding subject-matter whether significant *per se* or not, and are intended:

1. to identify individual characteristics of a particular disclosure in a technical subject for which the corresponding classifying term has been assigned to the document;
2. to provide for the full capture of information regarding entities, such as organic chemical compounds, that are made up of standard units (*eg* for organic chemical compounds, the atoms, groups and radicals of which they are composed);
3. to identify uses or applications of the invention; however with effect of 1 January 1983 (Edition E of the Key) this function has largely been taken over by the provision, in a new heading UIS, of a common or "universal" schedule of indexing terms for uses and applications which can be used to record such information whether or not the heading in which the disclosure is classified is of reconstructed form (*see* paragraphs 56 to 58 for further information).

31. Occasionally some terms in indexing schedules have some degree of discretion associated with

their use which is explained as necessary. In some headings, certain indexing terms are assigned only to certain technical subjects identified by certain classifying terms within the heading; appropriate instructions are provided in such cases.

## EXAMPLE 2

**B6F**      **Selective printing &c; keyboards**

**B6F**

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This heading is divided into three parts which comprise:

PART A:

. selective printing apparatus

PART B:

. ink ribbons and handling mechanisms therefor, &c

PART C:

. keyboards

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PART A: Selective printing apparatus

This Part of B6F is primarily concerned with the organisation of and unit functions, sub-systems and elements in apparatus which in response to an input which is:

- (a) manual, *eg* setting an index or depressing a key,
- (b) electric or equivalent signals, *eg* from calculating machines, data processing apparatus and telegraphic apparatus,
- (c) from pre-recorded data, *eg* on punched or magnetic cards or tape,

produces an observable detectable printed, embossed or perforated image of an alpha-numeric or like selected character or syllable or a code pattern representing it. This Part also includes certain associations of selective printing apparatus with other apparatus, and certain ancillary functions and accessories for selective printing apparatus. Note, however, that ink-ribbon and keyboard subjects are dealt with in Parts B and C respectively

In this Part the following terms are used with the following meanings:

- . print hammer: that member which strikes the type carrying member against the paper or the paper against the type carrying member (the ink ribbon or the like not being taken into account)
- . print hammer mechanism: that mechanism which results in the print hammer striking a blow. The mechanism may comprise an actuator and an interposer, the actuator impacting the interposer, the interposer constituting a print hammer. Actuators and interposers are indexed separately for their hammer-like features

Explanation of subject-matter of Part A and relationships with Part C and with other headings

Selective printer organisation:

B6F Part A is the general heading in which are classified disclosures concerned with the functional constructional organisation of a selective printer, *IE* the interrelationships between two or more unit functions (*See below*) or sub-systems or elements therefor, or the general organisation of a particular kind or

type of selective printer (as defined in Indexing Schedule 1). A selective printer may be a machine in its own right or may constitute the printing mechanism of a larger machine organisation or system which, for example, may print a record of its own performance

It should be noted that (a) orthogonal positioning is regarded as a unit function and not as an inter-relationship between line-wise spacing and line spacing, and (b) printer organisation for specialised purposes is dealt with under Associations &c below

Excluded are:

. photographic type composing machines. *See* B6W, Type-composing

Unit functions, sub-systems and elements:

B6F Part A is a main heading in which are classified disclosures concerned with the individual subjects listed in the corresponding part of the Classifying Schedule below, each corresponding to a unit function, sub-system or element essential or contributing to the effective operation of a selective printer but not including mere ancillary functions and accessories

Certain unit functions, sub-systems and elements of selective printers are classified elsewhere, namely:

- . input and character selection—
- .. electric circuits for the selection of characters to be printed and for effecting format and like functional controls—G4H, Electric selective signalling
- .. keyboards—Part C of this heading
- .. zero printing suppression arrangements and controlling printing of zeros—G4T, Checking cash, attendances, &c
- . line-wise positioning—
- .. tabulating arrangements and column spacing machines dealt with in headings G4B, Mechanical calculating apparatus; G4T, Checking cash, attendances &c—the corresponding headings

32. A classifying term can be used alone to retrieve all documents essentially concerned with the corresponding technical subject, or a classifying term can be combined as appropriate with one or more indexing terms for more selective retrieval of relevant documents (classifying terms can *not*, however, be used in combination). In certain cases one or more indexing terms can be used to retrieve all references to some characteristic or characteristics within a heading, but in other cases such use is not possible, eg where, as indicated above, the indexing term may only be used with certain classifying terms, or the use of particular indexing terms is discretionary. As explained in paragraph 9 indexing terms cannot be assigned on their own without a classifying term.

33. In classifying schedules terms are normally grouped in descending or ascending order of organisational level. The arrangement of terms in classifying and indexing schedules is not necessarily alphabetical and in classifying schedules usually is not; logic is preferred to alphabetisation.

34. Whereas cross-references within an unreconstructed heading are normally to an abbreviated *term* (see the example in paragraph 17, eg the cross-reference to `buttons &c"), cross-references in reconstructed headings are normally to a *code* (or range of codes).

35 A cross-reference to a range of codes (eg to codes ABC-ABK) is normally to be interpreted as including ABC, ABK and all codes printed between these, whether or not any such codes are (alphabetically) outside the range C-K; for example with a Classifying Schedule containing codes ABD, ABC, ABB, ABL, ABK, ABE (in the given order), a cross-reference to codes ABC-ABK (or ABC-K) includes codes ABC, ABB, ABL, ABK and these codes only. Similar considerations apply to numerical or alphanumeric sequences.

36 Exceptions to the above rule should be readily apparent, and are indicated in the Key- by an appropriate note.

37. A reference of the form AT- is to be interpreted as a reference to all codes beginning with AT, irrespective of what follows.

#### Explanation of subject-matter of reconstructed headings

38. A sample first page of the Key relating to a reconstructed heading (B6F) is shown in Figure

39. The heading title is immediately followed by a preamble, explaining its scope, which often follows a typical pattern which is varied as circumstances require.

40. In general there is first a reasonably clear and brief (but not rigorous) description of the primary or principal subject-matter which is the concern of the heading, together with brief references to any other matter which is included. This is adequate for many purposes. Following this is an explanation of the subject-matter content of the heading which is as rigorous and comprehensive as possible.

41. This explanation is arranged in distinct parts, each corresponding to matter at a particular organisational level or otherwise characterisable (*see* paragraphs 43 to 47). The most important category of subject-matter is explained first and for this matter a strong attempt is made to ensure that any exceptions are exhaustively listed. Marginal or residual subject-matter is dealt with in a more general manner, often by reference to particular parts of the classifying schedule.

42. References to other headings, eg to indicate related matter dealt with in such other headings, are usually confined to the heading introduction but may also be found in a classifying schedule.

## Categories of subject-matter within a reconstructed heading

43. The content of a heading is often best explained in relation to certain defined categories of subject-matter. Heading B6F, Selective printing, &c, for example, is the *general* heading for selective printer organisation (both for overall organisation and for relationships between subsystems and/or elements) in that there are only minimal exceptions to its scope at this level: is a *main* heading *eg* for sub-systems, *eg* for the unit operations of character selection and line-wise positioning (rather more exceptions at this level, depending on *eg* the availability of other headings for dealing 'with particular sub-systems or unit operations of broader interest); and is only a *residual* heading for mechanical elements of a selective printer or for more complex apparatus (*eg* associations of apparatus) of which a selective printer is only a part (*IE* such matter is classified here only if there is no other heading which can properly classify it).

44. In addition to subject-matter which for explanatory purposes can be referred to various organisational levels there are three other categories of matter which are useful for grouping and explanation. These are *control and command* subjects, *perfecting* subjects and *ancillary* functions and accessories. Control and command subjects are those concerned with providing commands to an apparatus or system (*eg* manually, by means of a program, or in response to sensed or monitored conditions); and with the utilisation of such commands. Perfecting subjects are those which are not concerned directly with the basic functions of an apparatus or system but with ensuring that these can be performed effectively and efficiently in varying or difficult circumstances. For example, most inventions in carburetors are perfecting inventions in that they are concerned with the effective operation of the carburetor under varying temperature, pressure, acceleration, speed or load conditions. Ancillary functions and accessories are those not contributing to the normal functioning of an apparatus or system but which add to the convenience of activities to which the apparatus or system makes an essential contribution. Servicing and protecting arrangements may be included here. For example, in this category in selective printers are included the provision of eraser and pencil holders, sound-deadening means, cleaning arrangements.

45. The distinction between the various categories of subject-matter is not absolute. Also, the terms control and command, perfecting and ancillary functions are not always used for grouping purposes.

46. More than one kind of subject-matter at a relatively high organisational level can often usefully be recognised. The simplest is the mere multiplication of a particular operation or device, normally identified by the word "plural". Two other kinds are "combined" or "combination" and "convertible" which often cannot be distinguished from each other. They identify apparatus capable of performing two or more independent (not functionally associated) operations either alternatively or simultaneously. Obvious examples are a stool combined with a step-ladder and a walking stick convertible into a seat. Finally there are apparatus and systems in which diverse operations are functionally inter-related. (The operations may be simultaneous or consecutive). When a name exists for such an apparatus or system it is used. When no suitable name exists the apparatus or system is usually identified by the word "association" (of one part of the apparatus or system with the other part(s)).

47. The above terminology is not necessarily suitable for complex processes and when these have to be identified, the wording adopted is that which seems most suitable and care is taken that it is clear in context.

## **Subject-matter recorded for search purposes**

48. Only subject-matter of a nature which may in a later application be claimed as an invention is assigned to a heading for record purposes (except for headings serving purely as indexing schedules, *IE* headings C3W, C6Y, H3T and UIS). This means that every item of interest *per se* (*IE* every

"significant" item) is recorded in an appropriate heading and (where possible) in its own right. For example, every disclosure of an organisational level of interest *per se is so* recorded, whether it relates to an element or subsystem, or to a combination of these, or to an association containing one or more of these.

49. There are of course exceptions. The Key does not (as explained in paragraph 81) systematically provide for all elements, sub-systems, and combinations or associations, and consequently it is not always possible to record their character independently. Nevertheless the principle behind the practice set out in the preceding paragraph is adhered to, namely all matter considered of interest in the sense of constituting useful search material is recorded. If anything practice tends to err on the side of caution.

50. The method of recording disclosure within a heading varies from heading to heading as explained in paragraphs 26 and 30 to 32. If (as in reconstructed headings) the heading has terms of classifying character, *eg* has a classifying schedule, then disclosure of a technical subject will be recorded by an appropriate classifying term (*see* paragraph 8). If the heading has only indexing terms (as in some unreconstructed headings) then all characteristics of the disclosure for which corresponding indexing terms exist may be recorded, irrespective of whether the matter recorded by an indexing term has novel character or not; thus novel and conventional disclosure will be confounded (*see also* paragraph 26).

51. The assignment of subject-matter to headings and to classifying terms is not restricted to matter claimed although the claims will have a large influence on the assessment of what is worth recording in a patent document. Matter not claimed is recorded if "significant", *IE* considered useful for the official search. Matter falling within the scope of more than one heading and not the subject of an excluding reference (implicit or explicit) from one to another or an "affinity" note (*see* paragraph 28) is classified in both or all of the headings.

52. Terms "new", "novel", "inventive" and the like in the Key (and in these Notes) are not to be interpreted in an absolute sense; they relate merely to classifiable and/or indexable matter that is claimed or described (especially in an unexamined patent application) as "new", or that in the Classifier's experience is not already present in the search files. Further, in view of the early publication of applications required by the Patents Act 1977, on occasion matter not of positive interest (*eg* known or unpatentable matter) has to be recorded nevertheless.

#### Use and Utility as bases for classification

53. The term "utility" relate to inherent functional characteristics of an invention and it is these characteristics that provide and dictate the usefulness of the invention. On the other hand the term "use" relates to the employment of these characteristics in particular contexts to achieve corresponding effects in those contexts. In general the utility of mechanical and electrical subject matter is reflected at a high level in the classification, for example in heading titles: *eg* B8M, Reels &c; H2H, Electricity supply systems &c. The grouping of inventions according to their utility is one of the fundamental principles on which reconstruction of the key is based whereas on the contrary classification by use is generally unsuitable. Nevertheless utility and use inevitably merge on occasion and use may then have considerable importance for classification particularly for fairly simple artefacts and entities (for example drumsticks, golf clubs and hammers share a common utility as striking implements but their disparate uses dictate classification in different headings). Moreover, in mechanical or electrical subject-matter use frequently connotes some combination or association at a higher organisational level, *eg* because use of a basic machine, system &c in a particular field may require a special inventive adaptation of the machine, system &c for such use; the modified machine, system &c is then properly classified at the higher level in accordance with the practice referred to in the last sentence of paragraph 48. Certain fields of use have traditionally been considered to be sufficiently specialised or distinct to

form the basis for classification, as for example in the provision of such headings as A1P, Coupling agricultural implements to tractors. For all these reasons therefore the classification of many inventions will be determined or influenced by the disclosed use.

54. In chemical subject-matter utility normally reflects a property of a substance, *eg* pigmentary capability. However, inventive characteristics often proceed beyond the general property so that utility and use tend to mere rather more than with mechanical and electrical subject-matter although this will depend on the property. For example invention is often directed to the design of particular dyes and pigments for such specific uses as food colouring, colour photography and dyeing polyester fabrics. On the other hand inventions in lubricants are rarely directed to uses of such high degree of specificity.

55. Most novel compounds have a utility, *eg* as a drug, pesticide or for colouring, which forms the basis of some heading other than the heading for the compound. In extreme cases practically all the inventive activity in a particular function, *eg* optical brightening, may be in the provision of new compounds for this function. Assignment of novel compound disclosures to the heading defined in terms of utility (in addition to the heading for the compound *per se*) is wasteful, and novel chemical substances are now classified only in the heading corresponding to the substance *per se*, *eg* C2C, Organic compounds, C4P, Dyes and pigments, and their utility recorded by indexing (*see* paragraphs 56 to 58). Disclosures of utility of known substances will be classified in the heading corresponding to the utility.

#### Indexing use and utility: the Universal Indexing Schedules

56. The practice in recording use and utility, where they do not form the basis for classification, has varied in different headings and at different times. Certain headings have had extensive schedules of terms for this purpose, others have had none. In some cases the absence of means for recording use in certain headings for elements and sub-systems has led to unnecessary classification of documents in application headings for mere mention of the possibility of such application or use. In general, users of the Classification Key, particularly industrial users with interests centred on particular end products or fields of use rather than on patentability searching, have not had any systematic means for readily retrieving references to their field of interest in disclosures concerned with inventions in other fields.

57. Accordingly, to overcome the disadvantages outlined in the previous paragraph a new heading—was U1S, Universal Indexing Schedules for use, application, utility and property—introduced with effect from Key Edition E, *IE* for patent documents published on or after 1st January 1983. Terms from this heading are applied to record significant disclosed uses of any invention (irrespective of the heading in which the invention is classified) *where the said use is not inherent or implicit in the assigned classifying term(s)*. Effectively therefore each heading of the Classification Key has available the same comprehensive set of terms for recording use, and searches oriented towards end uses rather than subjects of invention can be made using U 1 S terms, either alone or in logical combination with terms from the remainder of the Key A schedule of terms for utilities and properties of materials is also provided in U1S to serve a similar purpose in respect of significant disclosures of utilities or properties of inventive materials, or inventive operations affecting the utilities or properties of materials classified in any of a substantially number of selected headings, *where the assigned classifying term does not itself identify or imply the utility or property*. Reference should be made to the introduction of heading U1S for a full explanation as to the purposes of the schedules, the rules governing their application and advice on using the schedules for searching. The relationship between other headings and U 1 S may be summarised in a note at the beginning of each heading (*see* Figure 1), but the absence of such a note does not mean that U1S is not applied for matter classified in that heading. A Catchwords Index specific to U1S is available from the Patent Office.

58. Heading U1S has superseded an earlier heading C3Y (operative from Key Edition B until the

introduction of heading U1S at Key Edition E) which provided indexing schedules for use and utility of polymers. However, file lists (*see* paragraph 69) using C3Y codes from the Edition D Key, cover documents published in the above range, *IE from 1 January 1980 to 31 December 1982.*

### Other indexing headings

55. Three further headings are provided which serve purely as indexing schedules.

56. Heading C3W (introduced at Key Edition B) is provided for recording significant polymer information in documents disclosing inventions relating to polymers (other than inventions in polymers *per se* and classified in certain headings falling within Key Division C3.

57. Heading C6Y (introduced at Key Edition D) is provided for recording disclosure indicating; that a specified micro-organism is new, or disclosure of the use of a specified micro-organism in a chemical, biochemical or microbiological process, in a document classified *in any other heading*. In C6Y "micro-organisms" includes viruses, undifferentiated plant or animal cells, protozoa, unicellular algae and single algae cells.

58. Heading H3T (as of Key Edition K) provides for recording information concerning the nature and topology of circuit elements in documents classified in certain headings falling within Key Division H3.

### **Use of the Key**

### Searching

59. If the heading which is wholly or most relevant for the search in hand is not readily apparent from the list of heading titles which is published in the leaflet entitled "Structure of the Classification Key" (*see* paragraph 5), the "Catchwords Index to the Classification Key" (available from the Patent Office) can be consulted. The Catchwords Index contains an alphabetical list of words which are intended to suggest both the heading most pertinent to the search need and also other closely related headings. The headings which appear relevant should then be consulted, turning, first to the heading introduction to confirm the correctness of choice (of particular importance here are the references out to other headings; *see* paragraph 12) and then, when appropriate, to the list of terms provided in the heading for identifying the specific character of matter classified there.

60. In searching it is necessary to take account of the essential character of the subject-matter being sought or its immediate purpose or effect rather than the apparatus or process in which it may be used or the purpose for which it is ultimately intended. A novel bearing designed for an electric motor does not improve the motor as such, though its use in a given motor may have advantages. On the other hand a modification of the motor to provide for cooling of the bearing may not be applicable to any other machine. In the first case the matter is classified in the "general" heading F2A, Bearings, lubricating, &c, and in the second in the heading which is the relevant application heading in relation to the bearing, H2A, Dynamo-electric machines, &c.

61. Guidance as to the use of classifying terms and indexing terms for searching is given in paragraph 32. Searching for disclosures which specifically mention a particular use or application has been facilitated, from Edition E, by the provision of the Universal Indexing Schedules (*see* paragraphs 56 to 58). Prior to that Edition recourse can be had only to the information on use connoted by the classification of the invention or provided by any indexing terms specifically for the purpose; such terms were often found in the "general" headings referred to in paragraph 13.

### Amendment of the Key

62. Since the Key is subject to revision, the terms in the edition that is operative in a given period, and that are applied to specifications published and/or classified in that period, may not be available for use for specifications classified in earlier or later periods; and similarly, for specifications published prior to the introduction of the Patents Act 1977, the issue of the Key that appears in an abridgment volume may only be accurate for the span of publications covered by that abridgment volume. Users of the Key, the abstract pamphlets and the abridgment volumes should therefore check when passing from one edition of the Key to another whether there is a change in the classification or index relevant to their search. For this purpose a list of Key changes is provided after the summary of headings in each Key unit (*see* paragraph 4), and the complete list is published in the Official Journal (Patents) prior to the date on which the changes become operative. In searching by means of file lists (*see* paragraph 71) it is for the same reason necessary to ensure (except for Series A lists) that the current version of the Key is used, if current specifications are to be retrieved-

67. Prior to Edition M the Key was completely reprinted at intervals, with each edition consisting of some amended and some unamended pages. On the left at the foot of every page of each completely reprinted edition is a code of which the first part indicates the Key edition and the second part indicates when the latest amendment on that page became effective. Thus K/D indicates that the page is part of Edition K and that the latest amendment on that page was operative from Edition D. Amendments of a presentational or clerical nature do not give rise to a change in the second part of the code: such changes are intended to reflect amendments altering the *sense* or *scope* of one or more passages or Key entries on that page.

68. On 1 January 1993, the whole of the UK Key was published as Edition L. Since then, on the 1 January each year, with the exception of 1997, certain parts of the Key have been republished. These republished parts, together with the unamended parts of the Key collectively constitute the latest edition.

69. The parts republished on 1 January each year fall into two categories:

(a) Complete headings republished to reflect changes of substance, *eg* new classifying and indexing terms. All pages of these headings carry two pan folio marks, separated by an oblique slash, in the bottom left-hand corner:

- i) The letter before the slash represents the latest Key Edition at which that page was reprinted;
- ii) The letter or number after the slash represents the Key Edition that the page last had a change of substance.

(b) Pages republished to correct printing errors. These pages carry the designation (eL) for pages republished on 1 January 1994 and (e) for pages republished subsequently on 1 January each year.

#### Operative date for Key entries

70. Information on the operative date of any particular term is summarised in a note at the beginning of each heading (*see* Figure 1). Terms introduced at Key Edition A or later carry a mar-final annotation (a, b, c &c) corresponding to the letter of the Key Edition at which such terms were introduced, but in the case of large blocks of recently introduced terms this practice is not followed. The operative date will in each case make the position clear.

#### File Lists

71. A file list is a tabulation of the serial numbers of all specifications which have been allotted a particular classifying or indexing term (identified by a code) or a logical combination of terms and, therefore, provides a ready means of identifying specifications disclosing particular subject matter. Details of the period covered by file lists for any code are set out in a pamphlet entitled "Documentation Records" which is supplied free of charge to each purchaser of a complete Key.

72. Each file list is produced to order and may be obtained from:

The Search and Advisory Service  
The Patent Office  
Concept House  
Cardiff Road  
Newport  
South Wales  
NP 10 8QQ

Tel: 01633 811010

## Chemical elements

73. The following Periodic Table of Elements is provided to facilitate use of those parts of the Key which refer to chemical elements according to their atomic number or to their grouping in the periodic system:

IA	IIA	IIIA	IVA	VA	VIA	VIIA	VII			IB	IIB	IIIB	IVB	VB	VIB	VIIA	O
HI 2																	He 2
Li 3	Be4											B5 13	C6 14	N7 15	O8 16	F9 17	Ne 2
Na 11	Mg12											Al 13	Si 14	P 15	S 16	Cl 17	Ar 8
K1 9	Ca 20	Sc 21	Ti 22	V 23	Cr 24	Mn 25	Fe 26	Co 27	Ni 28	Cu 29	Zn 30	Ga 31	Ge 32	As 33	Se 34	Br 35	Kr 36
Rb 37	Sr 38	Y 39	Zr 40	Nb 41	Mo 42	Tc 43	Ru 44	Rh 45	Pd 46	Ag 47	Cd 48	In 49	Sn 50	Sb 51	Te 52	I 53	Xe 54
Cs 55	Ba56	rare earths 57-71	Hf 72	Ta 73	W 74	Re 75	Os 76	Ir 77	Pt 78	Au 79	Hg 80	Tl 81	Pb 82	Bi 83	Po 84	At 85	Rn 86
Fr 87	Ra88	actinide 89-103	104	105	106	107											
	rare earths	La Ce 57 58	Pr 59	Nd 60	Pm 61	Sm 62	Eu 63	Gd 64	Tb 65	Dy 66	Ho 67	Er 68	Tm 69	Yb 70	Lu 71		
	actin- ides	Ac Th 89 90	Pa 91	U 92	Np 93	Pu 94	Am 95	Cm 96	Bk 97	Cf 98	Es 99	Fm 100	Md 101	No 102	Lr 103		

## Term Frequencies

74. A term frequency indicates the number of specifications in a given range, classified to a particular term in the UK Key. The range of specifications for each term can be determined from the separately available pamphlet entitled "Documentation Records". Up-to-date information on term frequencies can be obtained from Classification and Documentation Division (01633 814886)

## International Patent Classification

75. An indication of where the subject-matter of the headings in the UK Key is to be found in the subclasses of the current edition of the International Patent Classification and *vice versa* can be found in a separately available pamphlet entitled "Concordance between the UK Key and the IPC"

## **History of the Classification Key; background**

### Formal Character of the Key

76. The general character of the headings forming the primary classifying divisions and the relationships between them were first established in 1888 when there were 146 classes arranged in alphabetical order, Class 1 being Acids, alkalies, oxides and salts. Inorganic, and Class 146 Writing instruments. Many of these were later divided into parts, there being 271 Classes or part Classes by 1910. Within these were about 1000 "headings", many of them subdivided. The headings gradually came to be autonomous, the role of the Classes being reduced to providing a unique code for the headings. The number of headings grew with the creation of new technology so that by 1963 there were about 1400 autonomous headings.

77. This was an inconveniently large number of primary classifying divisions and in 1963-4, they were regrouped into about 400 headings. The regrouping was done in such a way as to approximate many of the resulting headings to the International Patent Classification (Int. Cl.) subclasses.

78. Apart from extension to cope with new developments and increased search material the changes to the Key from 1888 to comparatively recently were in the designation of the primary classifying divisions. The technical character and contents of the various divisions and their subdivisions, however designated, remained basically unchanged.

#### Technical character of the Classification Key headings

79. The primary divisions whether designated historically as Classes or headings were initially of an *a priori* or self-evident character and have largely remained so until recently. Any resulting overlaps or subject-matter conflicts between headings were dealt with by implicit general references to headings for elemental subject-matter (eg alloy compositions, mixing, moulding, cutting, bearings, switches), and by "excluding" references (acting as boundary markers) referring specific matter from one heading to another. In effect a heading was regarded as constituting an ideally autonomous division of the universe of technology and could accept any matter related in some way to the list of heading contents unless of a general elementary character or specifically excluded. This method of classification is called *boundary* classification since assignment of a disclosure to a heading was determined by whether the disclosure fell within the defined boundary of the heading or not. It necessarily resulted in functionally or constructionally similar disclosures being classified in, *IE* assigned to, different headings depending upon the manner of presentation or the fields of application referred to.

80. While the *a priori* headings reflected in a general way the pattern of information in technology. recognising the broad organisational levels in technology, for example mechanical and electrical elements, simple devices and machines or systems, they did not systematically provide, particularly in localised areas of technology, for all the elements, sub-systems and unit operations that do occur. Consequently many inventions of simple character (eg in structural joints) became classified in one, two or more headings depending on the application mentioned while many inventions in associations of different operations or apparatus became classified in the several headings for the different parts of the association. A parallel situation occurred within a heading so that a whole was sometimes represented only by the separate classification of its parts.

81. The manner in which a heading was conventionally interpreted (*see* paragraph 79), coupled with the practice (*see* paragraph 13) of omitting references to so-called "general" headings for relatively elemental subject-matter (forced by the impossibility of defining a boundary completely by cross-references) and in some instances the sheer volume of unco-ordinated cross-references, resulted in uncertainty in the scope of headings in respect of certain subject-matter, resulting in uncertainty in its classification and search which was not always recognisable. For example, subject-matter for which a general heading did in fact exist sometimes became classified only in the heading corresponding to its field of application or use or to a particular aspect of the subject-matter so that search in the general heading, although purporting to be complete, in fact was not, while search through both the general

and the application headings (for example) would be partly duplicated.

82. In general, headings often did not represent generalisations appropriate to the character of inventive disclosure that needed to be classified, giving rise to corresponding problems in the search and to inefficiency in the filing of documents.

83. For many years the Key gave no indication of the practice in a heading of assigning terms to documents but since 1971 each heading has included a statement indicating whether the practice *is indexing* or not or a mixture of the two practices (*see* paragraph 8), except where the practice is explicit in the provision of Classifying Schedule(s) (with or without Indexing Schedule(s)).

84. There was a marked tendency in the 1950s and 1960s not only when amending headings but also in heading formerly assigning terms in a discretionary or classifying manner to change to an indexing or non-discretionary practice to increase the possibility of searching by using terms in logical AND combination. This often resulted in the confounding of information that for efficiency needed to be kept distinct, in the recording of large amounts of trivial information of negligible search value, and in the blurring of the subject-matter scope of various headings by the acquisition of matter capable of being *indexed* but not *classified* by the available terms.

85. A programme of reconstruction was therefore instituted to regularise the practice in headings and to distinguish between classification and indexing functions. The principles and practice of reconstruction are described in paragraphs 27 to 47.