traversed. Terminate this process when the two subpaths meet and all edges have been traversed.

6.6. If any branches were identified in 6.2, apply steps 6.2 through 6.5 to each such branch in any order.

6.7. Complete the reconstruction process by expanding the atom and edge weights into terminal rings or sequences of edges and nonspiro atoms.

CONCLUSION

We have shown that it is possible to derive nomenclature rules which produce unique and unambiguous names for chemical structures. While the short-range goal of this work was to remove the ambiguities which exist in the nomenclature of spiro ring systems, the work serves as a model for the development of a complete nomenclature of chemical structures. In addition, the contribution to graph theory is clear.[8]

ACKNOWLEDGMENT

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An Optical Coincidence System for Personal Literature References

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A reference and indexing feature card system suitable for individual literature research files is described.

Abstract cards are frequently used for personal research references, but often they are not capable of being used to full advantage for reviewing a subject or writing a paper. As the number of cards increases, the system becomes more unwieldy, leading to neglect and eventual chaos. Presented here is a description of a simple system of indexing which overcomes many of the difficulties. For a personal reference system it is not necessary to go to the lengths involved in a full literature survey facility. The articles have all been read, or at least seen, and a system is adequate if it enables a vaguely remembered paper to be found.

CODE INDEXING SYSTEM

The "Code Numbers" define the subject matter in terms of a feature card system such as an optical coincidence method.[1,2,3] The Butterworths Research and Indexing Kit (B.R.I.K.) peep-hole index cards (Figure 1) enable 3000 reference numbers to be indexed. Each subject category has an index card, in which holes corresponding to the reference or card numbers are punched. The peep-hole system enables specific subjects to be defined by a combination of index cards. For example, to find articles dealing with pressure vessel design, the index cards for high pressure and for apparatus would be selected, and the common abstract reference numbers found by superimposing the index cards and holding them up to the light. A careful choice of subject categories is necessary to allow expansion of any subject as one's research activities deepen and the emphasis changes. The aim is to have the minimum number of subject categories for each particular article, while restricting the total number of subject categories. One method of achieving this is to eliminate
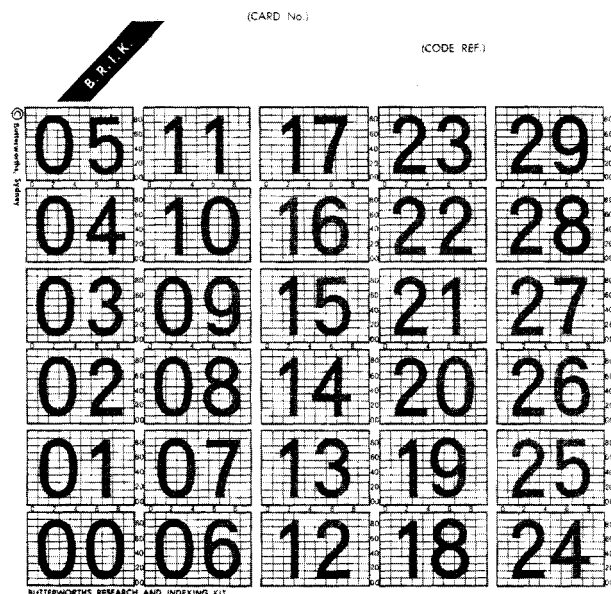
Figure 1. B.R.I.K. peep-hole index card [reproduced with permission of Butterworth & Company (Australia), Ltd., Sydney, Australia]

overlapping categories. For example, if the category of fused salt is used, high temperature is not required.

AUTHOR INDEXING SYSTEM

In addition to this subject index, it is necessary to have an author index. For this purpose, it is convenient to use a card or loose-leaf system, indexing to the abstract card numbers by means of the first three letters of each author's surname. An alternative method has been described by Starker.[4]

PROCEDURE

Details of each paper, including the code numbers, are recorded at the time the article is first read. At a later, convenient time, the abstract reference numbers are allocated, and both the author index and peep-hole index cards are brought up to date. In the B.R.I.K. system, round holes are punched by hand in the appropriate reference number space. A mark on the abstract card can be made to indicate that this information has been entered.

The abstract reference numbers are also useful when inserting references during the preparation of papers. In the drafts, the abstract reference numbers are used as reference numbers, and when the paper is complete the appropriate cards are drawn from the file, arranged in order of appearance or in alphabetical order as required, and the reference list prepared directly from the abstract cards. For the convenience of the typist the reference in the format required by the particular journal may be inserted on the reverse side of each abstract card. This assists in reference compilations and minimizes errors.

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