III. DISCUSSION AND GENERAL SUGGESTIONS

The location of stores according to their classification (name or symbol) has frequently been advocated. For example, items whose name, class, or symbol begins with A are put in the first row, and those beginning with Z in the last row. It is claimed that this is much simpler because the items "locate themselves." This may be practicable in a small storehouse with little change in either variety or quantity of items carried. In large scale operations, however, it breaks down, and it is a question whether it is ever really better than the complete separation of identification and location.

The vital weakness of the plan is that the considerations determining the classification of an item for identification are entirely different from those determining its most advantageous location. Suppose E stands for electrical supplies, F for fuel of all kinds, and H for hardware; should they be stowed in that order, the coal pockets between the bins containing electric fixtures and those containing hardware? The considerations determining classification are primarily those of the nature of the material or its use or form, and are chiefly for accounting purposes. The considerations determining location are difficulty of handling, quantity to be carried, frequency of use, special considerations (as of sensitiveness, perishability, etc.) and safety, and are based on low cost of handling.

A storekeeper must be free to locate his items for most advantageous and economical handling. He may have broken package stock for immediate issue in one place, reserve stock in another, and perhaps a wholesale supply in still another. Yet, with a consistent and logical marking scheme, he can keep track of it all easily and accurately without relying on his memory.

City street numbers do not change with the names of changing tenants. Similarly, storage location symbols should not change, no matter what items are moved in or out. The identification symbol indicating *what* an item of stores is should be independent of a location symbol indicating *where* it is. The discussion of marking in this memorandum is based on the recognition of this truth and deals with a marking scheme related to the layout, but not to the goods which are to go in the layout.

1. Marking

Consistency.

1. Haphazard marking of location is to be avoided. The instructions for a definite scheme of marking given in Section IV are designed to cover a considerable range of special conditions, assuming that proper principles of storage (see Part II) are followed.

Standard base lines or points of reference.

2. Just as the equator and meridians furnish base lines of reference without which distance and location on the earth's surface could not be determined, so in stores layout there must be standard base lines in reference to which the location of a given unit may be determined. These are the natural boundaries of the total storage space or individual sections. Out-of-doors, for instance, a base line might be a river, steep bank, highway, railroad track, stonewall, board fence, or other boundary line to remain during the use of the space for storage. Within doors, the walls of the building and the aisles that are necessary for passage form natural base lines from which to start the series of location symbols.

Showing the boundary lines of aisles and likewise of storage, receiving, assembling, and shipping places is important in order that there may be no vagueness about the limits of the spaces required for each. The more permanent and conspicuous these boundary lines are made, the better. In buildings, lines two inches wide, of black or red paint, or of strips of zinc tacked to the floor, have been used effectively. Platforms and bins should be placed so as to conform to the planned layout.

Standard directions.

3. The boundaries of any areas will usually correspond in a general way to the four points of the compass, north, east, south and west. Therefore, the subdivisions of a storage area will generally parallel two opposite bounds and would run in corresponding directions. In the rare cases where bounds run exactly, for instance northeast and southwest, some one boundary from which to determine standard direction must be arbitrarily chosen.

Standard unit storage area.

4. A section or quarter-section of land is a unit well known to settlers in new territory. It is used by the government to locate precisely every part of the country. For the same reason, a standard unit area, rectangular so that the whole layout may be systematically plotted, is important for logical marking.

The size of the standard unit area will be determined primarily with reference to the goods to be stored so that when the layout is completed the areas will be occupied by the various items with a minimum of waste space. There is naturally no objection to using a number of adjoining areas for the stowing of large items in large quantities, or, on the other hand, to using a single unit for stowing several small items in small quantity. The unit areas, however, with their symbols enable one to determine definitely the location of any item.

A location symbol for each unit area.

5. It is clear that a complete description in words of any particular location would be a long and complicated affair and that, without some system of symbols representing the complete description, systematic marking would be impossible. With, however, a simple scheme of designation, brief, clearly understood, and showing the relation of any particular location to the whole location scheme one has the requisites for effective handling of the problem.

An example of good practice in actual use is the system of lettering described in the instructions in Section IV. By the requirements of the case, each individual letter of any whole location symbol must be significant, not only in itself but in its relation to each other letter of the symbol. The first letter will indicate the largest division of any storage layout, such as a tract or field, a building, floor or section. Each succeeding letter will indicate some subdivision of the space indicated by the preceding letter. For instance, the first letter may indicate one of several storage buildings, the second a floor in the building; the third a section of that floor; the fourth a row of unit areas in the section; the fifth a unit area in the row; and the sixth a particular bin in a column of bins piled in tiers above the unit area.

A symbol will never contain more letters than there are regular divisions of space in the layout; it will contain only enough letters to indicate the particular area desired. For instance, in the above illustration, if the largest division of space is a building, the symbol for a floor would contain only two letters; that for a section, three letters; and so on.

Out of doors, terms must be given to areas the sizes of which increase up to several square miles. Hence, the definitions for different sized spaces given in Section I. As already indicated, it is thus possible to designate by not more than seven letters any regularly planned storage space of one square yard in a total area of 800 square miles.

For the actual sign-marking of given spaces, much must be left to local conditions and individual ingenuity. Out-of-doors, sign posts are almost essential. Indoors, floors may be lettered in the elevator shafts, and sections indicated by signs over their entrances. Sections and rows can frequently be indicated by painting the symbols on girders, cross-beams, or posts.

It is desirable to preserve flexibility in the use of marking, as to storage equipment. An example of good practice is the provision of metal holders for removable cards. A yellow card, bearing the symbol in black gummed letters (plain Gothic capitals) is inserted in the holder and may be changed according to need. For wooden bins, this card may be 3″ long by 1 1-8″ wide, insertible in a tin holder. (see Figure 6). Such a card will take four 7-8″ letters, indicating section, row, unit, and tier. The holder would be tacked to the upper left corner of

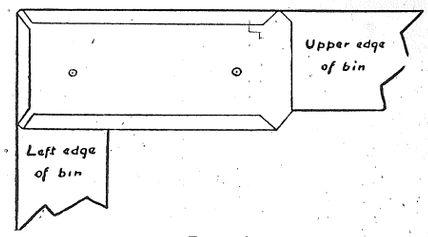

FIGURE 6
Metal holder for bin marker card.

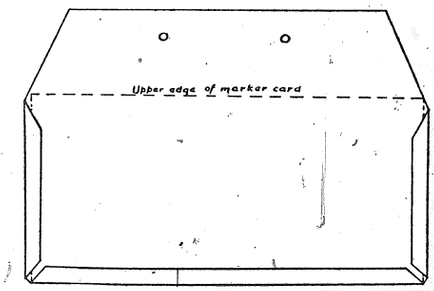

FIGURE 7
Metal holder for row marker card.