

Safety.

The stresses which floors will stand must of course be known and allowed for. Whether fire-passages (of 2 ft.) along all walls should be left, depends on local conditions and the nature of the goods. In general, fire-passages are more necessary with block piling, or where stacks run parallel to and adjoin the walls. Fire-passages are less necessary when stacks, with side aisles between every two, run at right angles to walls. In the latter case, the side aisles give direct access to wall space every few feet, and packages next the wall in any given stack may be easily and quickly removed.

4—Accessibility.

Issuable units.

The immediate accessibility of each lot of every item only emphasizes in a different way the fundamental general purpose of stowing, namely, to get at what you want when you want it with the minimum expenditure of time and effort. This means that goods should be stowed as nearly as possible in the units in which they will be issued, even though this requires the breaking of the units in which they are received. This is based on the fact that the time element required for unpacking is less important when the goods are first received than when they are called for issue. As a precaution against unnecessary loss from depreciation, it is obvious that the stock should be kept moving by always using the old lots first.

5—Standard Methods.

In writing.

The importance of establishing in writing some defined methods of placing and removing the various classes of items need not be emphasized. The very effort to determine the methods forces attention and decision for the time being, at least, on the one best way under the circumstances. More than that, it is true that the consistent following of even a poor standard brings better results than the haphazard and uncertain following of the best of standards. The more completely a poor rule is followed, the more clearly will its failings be revealed and the better can it be revised.

Neatness. Exceptions conspicuous.

Standard methods for piling each class of goods will insure neatness and uniformity. Then the exceptions to good piling, by their very conspicuousness, will be their own signal for correction. "Publicity is a potent factor in keeping things right." Therefore, unnecessary covers, doors, and other protections, behind which wrong practice may be concealed should be avoided.

More accurate inspection and count.

Besides leading to precision in handling and making carelessness more noticeable, such uniformity greatly facilitates the accuracy and speed of inspection and count. So far as possible, stores should indicate their own count. Hence the importance of uniformly regular columns, stacks, and blocks. This is the chief reason for preferring cubical to pyramidal piling. The quantity in a full pyramid may be calculated by mathematical formula but difficulties are apt to arise as soon as part of the pyramid is removed. "How much is left" is an all-important question and it should not be necessary to count each article to find out. Piling in uniformly regular columns, stacks, and blocks, with only one last block, stack, column or package containing an odd quantity, is the simple solution of this problem.

Decimal units.

For the same reason, the use of easily calculated decimal units for the quantities in blocks, stacks, columns, and sometimes packages, is desirable. The instruction specifying that piling may be done in single units up to 10 and after that only in multiples of 5 illustrates the point.

Double space.

The allotment to each regularly carried item of double the space needed for each regular lot of the item received is, where sufficient space is available, well worth while. It insures accuracy and simplicity in handling the different lots, each being kept separate and the old lot always being used first. It also results in less frequent need of locating parts of the same item in different places. Where only the single space required for a lot is reserved for it, and a new lot comes before the old lot is used up, it is often necessary to put part, if not all, of the new lot somewhere else, there being no room for it in the space with the old lot. This process, repeated often enough, leads to a constant shifting of the location of given items and results in confusion. In some cases where the storekeeper is responsible for the quantities on hand, he loses sight of some portions of an item and calls for more before he really needs it. This means unnecessary investment and the added liability to loss from spoilage. Some plants have found that the cost of the double space system suggested above was well repaid by protection against such loss. The less intelligent and skilled the help, the greater is the usefulness of the double space system. It is more nearly "fool-proof."

6—Flexibility.

Unit storage spaces.

In few live organizations are conditions the same year after year; in some, the conditions change materially season by season. Hence the importance of flexibility in the arrangement and use of storage equipment. The determination, even at some effort, of a standard rectangular storage unit as the basis for the lay-out of the stores plant is a great help in obtaining this flexibility. Bins, platforms and floor spaces can then be made to correspond to this unit and so be interchangeable. Thus, without affecting in any way the general plan and lay-out, the particular equipment in use may be shifted to meet varying conditions.

Bin sub-divisions.

The same principle applies to the subdivision of bins and will lead to the adoption of a standard unit bin of such inside dimensions that it will hold the greatest variety of standard removable subdivisions. For instance, a bin $24\frac{1}{2}'' \times 24\frac{1}{2}'' \times 18''$ inside, opening on the first two dimensions, gives opportunity for a wide variety of subdivisions 18" deep whose other two outside dimensions will be even fractions of 24".

Emergency bins.

For emergency use, bins may be improvised by stacking empty packing cases of uniform size back to back. Such double rows should preferably run at right angles to the long side of the building.

PART IV.—GENERAL INSTRUCTIONS FOR HANDLING STORES.

Counting.

Before or during stowing.

1. All goods will be counted before or during stowing, and the quantity entered on the tag.

Placing.

Storage space.

2. Stores are stowed only in the spaces reserved for the purpose. This means that window sills, ledges, floors, aisle spaces, etc., are not to be used either permanently or temporarily for keeping goods unless the tag on the goods bears the signature of the proper official authorizing the use of such space for that purpose. Tools or equipment in regular use in store rooms will be provided with special places, marked so as to show the purpose for which reserved.

7—Planning.

The importance of accomplishing the most with every man-hour of labor as well as every dollar of expense in the nation's work of winning the war is the measure of the importance of careful stowing. Hours of labor and dollars of expense can be avoided by intelligent planning ahead. The storekeeper must pre-determine and control his results instead of letting conditions take him by surprise and find him unprepared. Where he has the planning of new storage areas he will find it pays, for best results and a minimum waste of space and operating expense, to observe the following sequence:

Method for planning new areas.

(a) The listing and classification of all items according to

1. Measurements
2. Difficulty of handling
3. Frequency of use
4. Special considerations, as of sensitiveness, perishability or of peculiar similarity
5. Quantities to be carried

(b) Determination of proper unit storage space

(c) Determination of proper aisle spaces

(d) Determination of proper lay-out of storage and aisle space with general location of items and calculation of total space needed.

(e) Lastly, the planning of structures so that entrances, aisles, posts, platforms, windows, and other necessary features will not interfere with but will facilitate the most desirable lay-out of the stores themselves.

Space for one item.

3. The space allotted to any one item will be enough to hold the maximum expected on hand at one time, with each lot distinct. e.g. If the normal lot would occupy $1\frac{1}{2}$ rows, and usually arrives when 1-3 of the previous lot (or $\frac{1}{2}$ row) is left, the total space reserved for the item would be 2 rows. (See Figure 1.)

Placing.

4. The placing of any item of stores depends on the shape and character of the article, and the nature of the storage place. On the floor are placed cases of such size and weight as to be apt to break a platform in handling. All other stores except those stowed in bins or on racks are placed on platforms. These are largely goods of bulk and weight, such as sometimes require more than one man to handle and