FOLDED GARMENT STORAGE

for

Southern Farm Homes

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FOLDED GARMENT STORAGE *for* *Southern Farm Homes**

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FINDING ENOUGH suitable space for storing folded garments is not an uncommon problem. Practical answers begin with the kind and amount of storage space available and advantageous use of it.

If storage units include drawers, trays, or shelves, the best solution is to fold and arrange garments to make the most efficient use of the available space. In case of inadequate space, some means of increasing or improving it should be devised.

When no facilities for storing folded garments are available or when new facilities are planned, two decisions must be made: (1) types of storage to use, and (2) dimensions that are suitable for this purpose. Although this may be more difficult, it offers a more satisfactory solution.

The problem of clothing storage has been studied by Auburn University Agricultural Experiment Station. To test suitableness of storage facilities, families used the various types, criticized them, and expressed their preferences. Dimensions of folded garments were measured, dimensional requirements were determined, and storage units were designed.

This bulletin, which reports results of these studies, should be helpful in planning storage in existing units and in designing new units for storing folded garments.

FACTORS AFFECTING CHOICE of FACILITY

If readymade facilities for storing folded garments are desired, those with drawers are easiest to find at all price levels. When units for storing these garments are to be built, the first

* A partial report of a clothing storage study supported by funds provided by the Hatch Act (1955) and by State Research funds. It is a contributing study to Southern Regional Housing Project S-8.

problem is to decide whether to use drawers, trays, or shelves.

Shelves are less expensive to build than drawers, since they require less labor and materials. This is true even of pull-out shelving. Trays are pull-out shelves with three or four sides. They cost more than shelves, but may cost less than drawers. The cost difference depends on number and height of the sides, method of construction, and materials used.

Aside from the difference in cost, there are other factors to consider when deciding which to use. Some of these have been observed in a storage-unit study. For instance, the user can see the garments stored on shelves at a glance. However, these garments must be folded and stacked neatly. Homemakers considered this an advantage when removing garments from the shelf, but admitted that they were forced to be neat in putting things away.

Adjustable shelving is useful in meeting the changing needs of the user, such as for storing lightweight garments in summer and heavier ones in winter, or for storing the small garments of a child and larger garments as he grows older. The flexibility of easily adjustable shelves will be appreciated by the homemaker.

Pull-out shelves can be placed closer together than stationary shelves. For this reason they may be considered space savers. To use pull-out shelves, it is necessary that the doors open completely so that shelves can be pulled forward. This has been considered a disadvantage by some people who have used them. It has been shown in the laboratory that it is often possible to remove garments without pulling shelves forward. However, the shelves usually must be pulled forward to place garments on them.

Drawers conceal and hold their contents even when not neatly arranged. It has been demonstrated that drawers are better than shelves for holding in place garments that tend not to stay folded and garments that are rolled. However, use of drawers reduces the general visibility of items stored, since they are opened one at a time.

In some ways trays are like shelves, in other ways like drawers. If they have high fronts, the items stored cannot be seen unless the trays are pulled forward. Trays are not adjustable to spaces smaller than the height of their sides and fronts. Trays with low sides have some of the advantages of both drawers and shelves.

The sides help hold garments in place, yet permit flexibility in spacing. Trays are usually behind doors unless they have high fronts.

After considering cost and qualifications of the various facilities for storing folded garments, the planner decides what kind to build. It is possible and sometimes desirable to use more than one kind of facility in the same unit.

USE-TESTS of STORAGE FACILITIES

Use of sliding shelves and shallow trays for storing garments, as well as ideas for designing them, grew out of a study of storage units. In this study families lived in a house known as the storage wall laboratory to evaluate the storage walls that were used as partitions. In addition, two families used some of the clothing storage units in their own homes. A brief report about the families and their evaluations is given here.

Four families lived in the storage wall laboratory for periods of 1 year (2 families), 6 months, and 9 months. Three of the families consisted of two parents and two children. The fourth had only one child. The parents of one of these families used a set of units in their home for 6 months. Parents and two children of a farm family used alternate sets of units for a period of more than 2 years. Ages of all children in the study ranged from 1½ to 11 years.

Facilities used by the families for storing folded garments included drawers, fixed shelves, pull-out shelves, and trays. The shelves and trays were of various sizes. The smallest were 11 x 22 inches, the largest 31 x 22 inches. Families who used the facilities in their own homes had fewer choices, and they were visited less frequently by the author than those who lived in the storage wall laboratory. All of the families had used drawers for storing garments before they participated in the study.

The homemaker arranged to have family members use facilities as requested by the author. After use of a facility, the homemaker reported at intervals on its acceptability, any problems connected with its use, and comments about it. As alternate facilities were used, preferences between pairs of facilities were expressed. Comparisons included corresponding facilities previously used in the subjects' own homes.

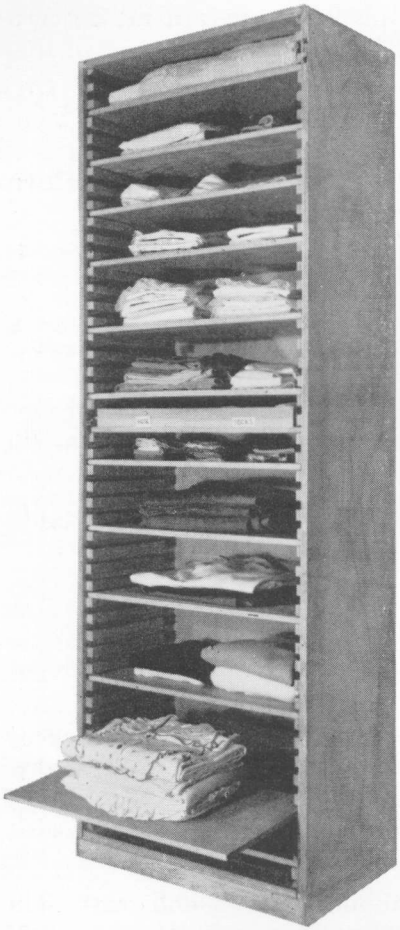


FIG. 1. These pull-out shelves do not tip when pulled forward for placing or removing garments.

Methods of shelf support were also studied. These included shelf hanger strips with metal clips, dowels and shelf hangers that fit into holes, and cleats. These cleats were initially used under shelves as supports. Next, the shelves were slid between pairs of cleats to prevent tipping of pulled-out shelves. Finally, cleats were spaced throughout the height of the unit to provide for easy adjustment.

The homemakers participating in the study were unwilling to remove and replace metal clips, dowels, and other shelf hangers. They showed no inclination to adjust shelves by removing and replacing the cleats. However, when the cleats were spaced throughout the height of a unit, the homemakers would adjust a shelf by slipping it out from between one pair of cleats and placing it between another pair. This method of support and adjustment includes the non-tipping feature (Figure 1).

Other improvements were made in facilities as problems in their use became evident. When socks rolled off shelves, the use of low sides (which made them trays) solved the problem. Some difficulties that could not be remedied in the storage wall laboratory were avoided in the units finally recommended. These included: (1) keeping the bottom shelf at least 2 inches above floor level to avoid floor dust, and (2) adjusting depths and widths of shelving to suit the dimensions of folded garments.

From the storage wall study, the following general observations were made:

(1) Deep, fixed shelves are not satisfactory for storing clothing other than large items.

(2) Large trays are too unwieldy for storing garments except those that are out of season.

(3) Drawers and trays with fronts are not satisfactory for use above shoulder height.

(4) Deep pull-out shelves on which large garments are stacked one pile behind another need to have three low sides and therefore become trays.

(5) Pull-out shelves are acceptable for storing folded garments.

In addition to these observations, the use-testing contributed to the generalizations on choice of facility.

PROCEDURES for DESIGNING UNITS

Usually the first step in designing storage space for a group of items is to find their dimensions. In this study it was necessary first to decide what items, or garments, and how many of each would be stored. Decisions had to be made as to probable sizes, cuts, and materials of the various items.

Garments were then folded by suitable methods and their dimensions determined. The dimensions were used as a basis for designing storage spaces.

Selection of Garments

The number of garments of each kind for each family member is based on the report of a survey of 751 owner-operator farm families in seven Southern States.[1]

The survey report lists numbers of garments of each kind owned by age, sex, and socio-economic group. In the study reported here, three levels of ownership were selected for each

[1] *Farm Housing in the South.* Southern Coop. Series Bul. 14, Tables 109 and 111, pp. 194-201 and 207-215. 1951.

age and sex group and were designated as minimum, moderate, and liberal.[2]

Tabulations of clothing inventories given in the survey report listed some garments in general categories, such as **underwear** and **nightwear.** These tabulations failed to include some items known to be owned, such as women's and girls' hose, slacks, and shorts. Therefore, the information from the survey was supplemented by a study of 88 husband-wife families in Birmingham, Alabama,[3] which listed items of clothing in greater detail and confirmed the thesis that certain items were on the market at the time of the survey and used at least by city families in Alabama. In addition, limited studies of clothing inventories of rural Alabama residents were made. These included studies of clothing inventories of 42 Alabama rural families and of 109 high school girls.[4]

These studies, made in 1959 and 1960, indicated that some of the items omitted in the survey questionnaire are presently owned by members of farm families. These studies also indicated that clothing inventories of adults had changed little, but that the inventories of teenage girls had increased since the original survey. Results from these studies made it possible to make more specific listings of inventories and to adjust the inventories as indicated.

The inventories in the limited studies were obtained by age and sex, but not by socio-economic group. In order to determine minimum, moderate, and liberal levels of ownership, the numbers of garments of each type for each age and sex group were arrayed. The arrays were divided into three levels, or groups, each including numbers of individuals in proportion to

[2] Determination of levels of ownership and of numbers of garments at each level was made as follows: The median and third quartile numbers of garments for each age, sex, and socio-economic group were determined. The third quartile numbers owned by the lower socio-economic group and the median numbers owned by the higher socio-economic group were in each case very nearly the same. Therefore, three levels were indicated. These levels and the numbers of garments for each were specified as follows:

Minimum—median numbers of garments reported by lower socio-economic group.

Moderate—third quartile numbers of garments reported by lower socio-economic group and median numbers of garments reported by higher socio-economic group.

Liberal—third quartile numbers of garments reported by higher socio-economic group.

[3] *Family Clothing Inventories and Purchases by Place of Residence. Minneapolis-St. Paul, Minn., Birmingham, Ala., 1948-49.* Preliminary Report No. 4. U.S.D.A., A.R.S., B.H.N.H.E., May 1951.

[4] See Acknowledgments, Page 44.

the numbers at corresponding levels as determined from the original survey data.

When clothing storage space is planned for a child, it should be adequate for maximum future needs. For a boy the time of greatest need for clothing storage space is when he is in his 20's. For a girl the greatest need is in the late teens. Likewise, when clothing storage is planned for adults, it should be adequate for the age group having the greatest requirement. The survey data show that married men and women usually need the most space when they are young, that is, during their 20's or 30's. The dimensions of storage spaces given here are based on clothing sizes and inventories of these age groups.

Garments of each type were selected for folding and measuring according to style, size, and fabric. Also specific garments were selected for making arrangements for each family member at each level. Selection was made on the basis of information supplied by a major mail order company.[5]

Dimensions of Garments

Knowledge of dimensions of folded garments is useful to persons selecting or designing functional storage facilities. Dimensions of garments selected were determined for use as a basis for estimating storage requirements. A large number of garments were folded and measured to determine their dimensions. The number of garments of each type is given in Table 1, page 11.

Two to four methods of folding were used for each kind of garment. The number depended on the size and shape of the garment. Folding methods were devised. For the sake of brevity, methods of folding are referred to as **folds.** Folds were established on the basis of ease of folding, neatness, stability, and, when applicable, appearance of the garment when unfolded. Usually the folded rectangle was nearly square.

Exceptions to the nearly square fold were devised for special purposes. Folds were planned to produce long, fairly narrow shapes to use when storing such garments as slips in drawers or trays that are fairly deep front to back. These were called **long folds.** Also, for some bulky garments, folds were planned to produce less height by using fewer thicknesses. These, called **large folds,** let the garments spread over larger areas. Folds not designated as long folds and large folds were called **regular folds.**

[5] See Acknowledgments, page 44.

Folded garments were measured individually in an apparatus consisting of a horizontal surface 30 x 48 inches, to which two adjacent vertical sides 11½ inches high were attached. Other parts of the apparatus were: (1) a vertical panel 48 inches long and 11 inches high, and (2) a box 5×8×12 inches. The horizontal surface was marked in 1-inch squares. The sides and the vertical panel were marked with horizontal lines 1 inch apart. A tape measure graduated to ⅛-inch intervals was fastened along each of the two 30-inch edges and along one 48-inch edge of the horizontal surface.

When a folded garment was measured, it was placed on the horizontal surface in the corner where the sides met. The panel was brought up to the side of the garment and squared by means of the tape measures. The box was brought up to the end of the garment and squared by means of the lines on the horizontal surface. Length and width of garment were read on the tapes. The horizontal lines on the sides and the panel were used as means of finding the greatest height of the garment. Height was measured by a ruler. Fractional measurements less than ½ inch were rounded to the next higher half inch.

Many factors contribute to the dimensions of a folded garment. Besides the method of folding, size, cut, fabric, and finish influence its dimensions. Moreover, when the same person folds the same garment twice by the same fold there is usually some difference in its dimensions.

Three persons folded each garment three times by each fold and measured it each time. The average length, width, and height obtained from these nine sets of measurements were considered the dimensions of that garment by that fold. Thus, if 3 folds were used for such garments as athletic undershirts, each shirt would have been folded and measured 27 times and would have yielded 3 sets of dimensions. Also, folding 4 athletic undershirts by 3 folds required 108 folding and measuring operations that yielded 12 sets of dimensions. For some types of garments, however, variations in cut and size were such that the same folds were not practical for all garments within the type. An example is nightgowns, which varied in length, fullness, and sleeves. Different folds were devised so that the various garments were folded by suitable methods, and not every garment was folded by every fold.

Ranges of width, length, and height of each kind of garment

were developed. These are given in Table 1. Dimensions in this table also include **long folds** and **large folds** for garments for which these folds were made.

The stiffened bouffant slip worn by women and girls presents a special problem. Many people store these garments on hangers. However, when this is done or when they are merely folded lengthwise and stored in drawers, shelving, or other places, the space they require is more than many homes can conveniently provide.

Two methods were developed for storing these garments. When one or two were stored between adjustable shelves, they

TABLE 1. RANGES OF DIMENSIONS OF INDIVIDUAL FOLDED GARMENTS

Item	No. folded	No. of folds	G.F.[1]	Length	Width	Height[2]
				Inches	*Inches*	*Inches*
MEN'S GARMENTS						
Regular Folds						
Undershirt						
Athletic	4	3	12	7 -10½	6 - 8½	1 -1½
T-style	9	3	18	9 -10½	7½-10½	1 -1½
Shorts						
Woven	11	3	32	9 -12½	6 - 9	1 -1½
Knit briefs	4	2	8	7 - 8½	6 - 7½	1 -
Union suit, winter	6	2	12	9 -10½	7 - 9	2 -3½
Pajama						
Long	6	2	12	10 -12	7½-11	2 -3
Short	3	2	6	11 -11½	7 -10½	1½-2
Shirt						
Dress	12	1	12	11 -12½	10 -11	1 -3
Sport, woven	21	2	23	10½-13½	9 -10½	1½-2½
Sport, knit	8	2	16	8½-10½	7½- 9½	1 -2
Work	6	2	12	10 -13	9½-11½	1½-2½
Sweater						
Long sleeve	9	2	18	11½-14	8½-10½	1½-3½
Sleeveless	3	3	9	8½-13½	7½- 9	1 -2
Work pants	11	2	20	12½-15½	10½-11½	2 -2½
Jeans	6	2	12	12 -13	11 -12	2 -3
Coveralls	5	1	5	12½-13½	10½-11½	3 -3½
Large Folds						
Union suit, winter	6	1	6	12 -15	8 - 9	1½-2½
Shirt						
Dress	12	1	12	14½-17	10 -12	1 -2½
Sport, woven	19	1	19	13 -16	10 -11½	1 -2
Work	6	1	6	15 -18½	9½-11½	1½-2
Jeans	6	1	6	14½-16	12 -13	1½-2½
Coveralls	5	2	10	16 -17	11½-13	2 -3

Continued

TABLE 1. (CONT'D). RANGES OF DIMENSIONS OF INDIVIDUAL FOLDED GARMENTS

Item	No. folded	No. of folds	G.F.[1]	Length	Width	Height[2]
				Inches	*Inches*	*Inches*
WOMEN'S GARMENTS						
Regular Folds						
Brassiere						
Regular	8	3	15	5½- 8	4 - 5½	1½-2½
Longline	5	2	7	9 -12	6 - 9	1 -2½
Camisole	3	3	6	6½-10	4½- 9½	1 -1½
Vest	2	2	4	7 - 9½	5 - 6	1 -1½
Panties						
Brief	10	3	20	6½-10	5 - 7	1 -
Other	8	2	15	7 -12	4½- 9	1 -
Slip	20	2	40	9½-11	7 -10	1 -2½
Half-slip	9	1	9	8½-11	6½-10	1 -3
Nightgown	32	4	64	9 -12½	7 -10½	1 -3
Pajama						
Tailored	4	4	8	10 -12½	6½-10	1½-3½
Other	7	4	14	7½-11	6½- 8	1 -2
Sweater	23	3	56	8 -12	7 - 9½	1 -3½
Shorts	12	2	20	10 -13	6½-10½	1 -2½
Jeans	4	2	8	11½-14	10 -11	2 -
Pants, ¾ and ankle length	5	2	10	11½-14	8 -10½	1½-2
Playsuit						
One-piece	3	2	6	9½-10½	7½- 9½	2 -
Two-piece	5	1	5	8½-10	7½- 8½	2 -2½
Long Folds						
Slip	20	1	20	12 -14	6 - 8½	1 -2
Half-slip	9	1	9	12½-16	5½- 8½	1 -2½
Large Folds						
Shorts	12	1	12	12½-15	7 -11½	1 -1½
Jeans	4	1	4	13 -15	12 -13	1½-2
Pants, ¾ and ankle length	5	1	5	12½-14	11 -13	1 -1½
Playsuit, Two-piece	5	2	9	12 -14	8 -10½	1½-2

[1] G.F. represents the sum of the numbers of garments folded by each fold. In the case of the 9 T-style undershirts, 9 were folded by fold 1, 2 by fold 2, and 7 by fold 3, making a total of 18 G.F.

[2] When garments are stacked, the height of the stack is usually less than the sum of the heights of the garments.

were rolled and the shelf spacing adjusted so that the roll was held in place without crushing the garment (Figures 5 and 10, pages 28 and 38). When they were stored in drawers or several were stored between adjustable shelves, each slip was rolled

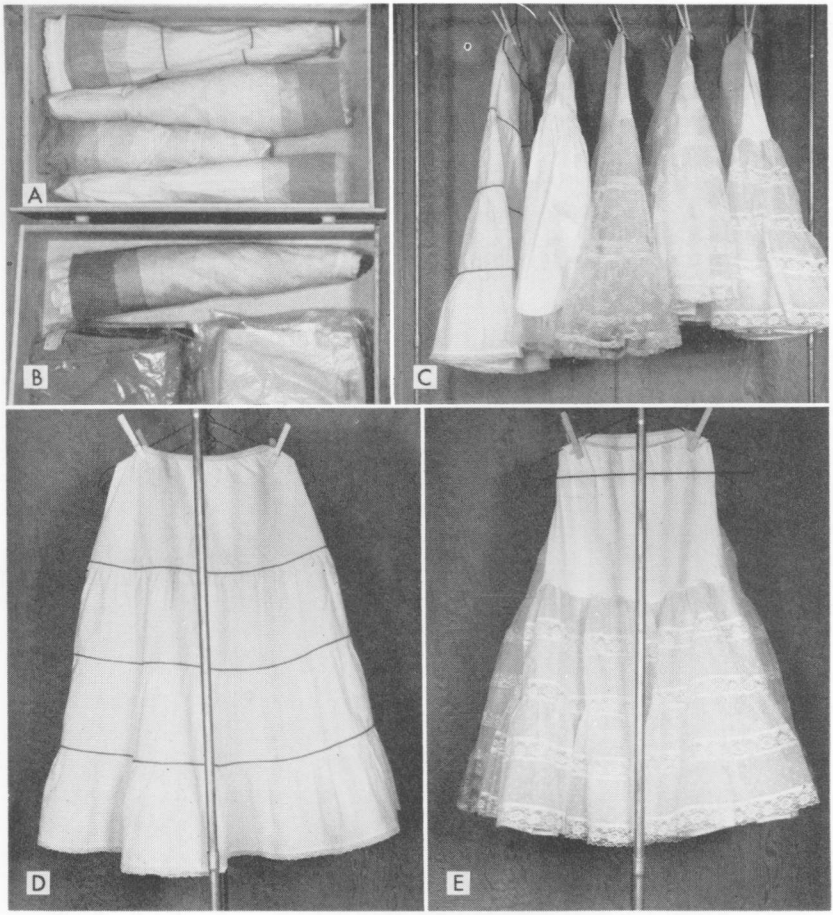


FIGURE 2. A and B—stiffened bouffant slips carefully rolled and pulled into discarded nylon stockings. C, D, and E—the same slips immediately after storage for 46 hours in the stocking covers.

neatly and firmly and pulled into a nylon stocking from which the foot had been removed (Figure 2, A and B). This treatment did not seem to impair the appearance of the garments. Figure 2, C, D, and E, shows the same slips immediately after they were removed from the stocking covers after being stored 46 hours. An advantage of using covers is that the slips do not unroll when handled.

Depth of Storage Surfaces

Depth (front to back) of storage surfaces, such as shelves or the bottom surfaces of drawers, can be as small as the width of

the widest folded garment stored. It need not be greater than the length of the longest folded garment. When the smaller of these two standards is used, few garments need to be placed in front of others; thus visibility and accessibility of garments are good.

The widths of men's and boys' garments folded by **regular folds** did not exceed 12 inches; their lengths were not more than 15½ inches (Table 1). Therefore, the depths of surfaces usable for storing men's and boys' folded garments fell between 12 and 16 inches.

The widths and lengths of women's and girls' garments folded by **regular folds** did not exceed 11 inches (width) and 14 inches (length) (Table 1). Therefore, the depths usable for storing women's and girls' folded garments fell between 11 and 14 inches.

When **large folds** are considered, the widths of men's and women's garments did not exceed 13 inches. Thus, even the garments folded by large folds may be stored on shelves 13 inches deep.

If facilities for storing folded garments are planned for master bedrooms or bedrooms that are unassigned, one should use a depth of 12 to 14 inches, which is suitable for both men's and women's garments. The depth may depend on the kinds of garments to be stored. It may be noted in Table 1 that men's work shirts and pants require a greater depth than other items. When these items are not included, storage surfaces may have smaller depths.

Width and Number of Storage Surfaces

To determine the width and number of storage surfaces for each family member at each level of ownership, garments were arranged on surfaces of the depths established. This was done first with patterns cut to scale. The arrangements that were judged to be the most practical were then checked by arranging the garments themselves on shelves.

Certain practices intended to save space in storage and make it as convenient as possible are generally observed in planning storage of any type. These practices were adapted to the storage of folded garments and used when arrangements were made. They are as follows:

(1) Only garments of the same type were stacked together.

(2) Only items of the same type were placed in front of each other.

(3) Related items were stored near each other.

(4) More-frequently-used items were stored in more accessible places.

(5) Stacks were kept fairly low, usually not more than four items per stack.

(6) An attempt was made to arrange on each surface stacks of the same height since this saves space. However, the rule for related items (3) was given preference.

(7) Space of at least 1 inch was allowed between stacks to prevent disarranging one stack when handling another.

(8) Space of at least 1 inch was allowed at the ends of each shelf.

Shelf Height and Spacing

Although built-in shelving for clothing storage may extend to the ceiling, the part for garments that are regularly used should be limited to the space between 72 inches[6] and 2 inches[7] above the floor.

The spacing of shelving depends largely upon height of stacks of items to be stored. Some space must be allowed above the items. The amount of this allowance depends on the depth of the shelving and whether it is stationary or movable. Pull-out shelves require little space between the folded garments and the next shelf above. No more than 1 inch is necessary.

In the case of stationary shelves, more clearance space is required for placing and removing folded garments. The amount varies with the distance above the floor, depth of shelving, and nature of the folded garment. For example, in shelving 13 inches deep at least 2 inches is allowed above each stack of garments, and in shelving 18 inches deep at least 3 inches. In the first case, 2 inches allows the hands and the garment being placed to go between the garments already on the shelf and the shelf above. In the second case, greater allowance must be made for the bend of the arm. It is assumed that in the second case the shelf will be used to its full depth or nearly so. For shelving below

[6] Reach of women (mean less 2 standard deviations). Unpublished data, project on "Body and Activity Measurements as a Basis for Designing Space, Facilities, and Equipment for the Home," carried on cooperatively by agricultural experiment stations of Alabama, Illinois, Pennsylvania, and Washington, and the Clothing and Housing Division USDA, ARS.

[7] See bottom page 6.

wrist level[8] and above eye level, greater allowances should be made for clearance. At these levels visibility is poorer and the arms make an angle with the shelves when reaching in.

The height of a stack of garments is usually less than the sum of the heights of the garments taken individually. The amount of settling of a stack depends on the firmness of the folded garments and their weight. Less firm items tend to continue to settle for some time. The shelf spacing used was determined on the basis of garments that had just been folded and stacked. When there was a choice of materials, garments made from heavier and less compressible materials were used in estimating shelf spacing.

Pull-out Shelf Units

Movable units were constructed for storing garments of parents, boys, and girls at three levels of ownership. The units were designed for use in bedrooms of two-person occupancy. When the numbers of garments per person were small, one unit was planned for two people. If the numbers of garments were large, one unit per person was planned. From the shelf arrangements made with patterns (page 14), a unit or combination of units the dimensions of which required the least floor space was selected for each family member at each level of ownership.[9] Each selection was adequate for storing the folded garments of the person(s) for whom it was planned.

Pull-out shelves supported by cleats closely spaced at regular intervals were chosen as the most practical type to use. They are economical of space and easy to construct. Families participating in the storage wall study preferred them to stationary shelves for storing clothing.

In the constructed units shelves ½ inch thick were supported by ¾ × ¾-inch cleats placed at intervals of 1½ inches on center. When the shelf is inserted, this allows a tolerance of ¼ inch to prevent binding as the shelf is moved forward and back.

After the units were constructed, arrangements of garments were made. In each case the garments were selected according to the lists developed for each family member at each level of ownership. The arrangements were those that had been pre-

[8] Level of the wrist when arms hang freely at side.

[9] One unit was chosen for the use of both parents at the minimum and moderate levels of ownership.

viously developed with patterns. Arrangements of garments had the advantage of showing height, thus suggesting shelf spacing. However, when the folded garments used in the arrangements were less than average in height, the final recommendation for shelf spacing was based on stacks of garments made of thicker materials.

Before a unit or set of units was approved, its adequacy for storing the required set of garments was checked.

Units with Stationary or Fixed Shelves

After the pull-out shelf units were designed and tested, dimensions for units with stationary or fixed shelves were determined. As previously explained, units with stationary shelves require more space between shelves and thus greater total height than pull-out shelf units. Therefore, it was sometimes necessary to add a new section or increase the width in order to stay within the 70-inch limit.

It may be seen in the specifications (pages 24-43), that units with pull-out shelves usually provide more compact storage than those with stationary shelves.

SPECIFICATIONS

Figures 3-12 (pages 24-43) illustrate the recommended units with pull-out shelves and the general dimensions. Garments stored on each shelf and specific dimensions for units with pull-out shelves and those with fixed or stationary shelves are given in the accompanying lists. (Spacing requirements for fixed and stationary shelves are identical.) Also included for men's and boys' units are shelf spacing requirements for sport shirts, work shirts, and work pants (including jeans and coveralls). These garments are sometimes stored folded, but are more frequently stored on hangers, particularly by people who have rod space for this purpose.

For boys' and girls' arrangements, the garments of only one individual are shown, but the requirements for two are explained. The spacing for the pull-out shelving is based on units with shelves adjustable in increments of approximately 1½ inches. If other increments of adjustment are used, shelf spacing and total height requirements may be different.

The illustrations show that the outside width of each unit is 3 inches greater than the free shelf width required. The 3-inch

difference is made up of the two sides of ¾-inch plywood plus two cleats, each ¾ inch wide. The overall depths of the units shown are 1 inch greater than the shelf depth, the door being made of ¾-inch plywood and the back of ¼-inch plywood.

Built-in Units

When storage units such as those shown on pages 24-43 are to be permanently located, a considerable saving of materials will be made if they are built as a part of the house structure. This is true whether they are built at the same time as the house or as an addition to a room. The wall and ceiling may serve as the back and top of a unit that is built to full room height. The floor of the house may be used as a foundation to which the base of the unit may be fastened. It will be necessary to provide wood end pieces to which the cleats are attached.

Movable Units

In situations where it is desirable to have a movable unit, the type shown in Figures 3-12 may be constructed. The unit should have a base of such a height that the bottom shelf is at least 2 inches above the floor. It is also recommended that a section extending upward to the ceiling be placed on top of the unit. The upper section may be used for storing out-of-season garments and other infrequently used items. The upper section usually improves the appearance of the unit. It also serves to prevent dust from accumulating on top of the unit.

APPLICATION of SPECIFICATIONS

When deciding the size of unit to build, select from the lists on pages 24-43 the set of garments that most nearly represents the ones to be stored, and construct a unit using the suggested dimensions. Specifications for these units are given in Table 2. The shelf dimensions given are those to which the shelves are sawed. Use ¾-inch cleats for the shelf guides.

The depth or width of one of these shelf units may be increased to suit structural requirements of a house. However, since the dimensions given are suited to the shapes of the folded garments, it is not necessarily true that if the depth is increased the width may be decreased or *vice versa*.

TABLE 2. STORAGE FOR FOLDED GARMENTS—SPECIFICATIONS FOR SHELF UNITS WITH HEIGHTS OF 6 FEET[1]

Level of ownership of garments	Bedroom	Persons using	Sections	Shelves: No. in each section	Shelves: Dimensions W[3]	Shelves: Dimensions D	Each section inside H[4]	Total unit[2] outside dimensions W[5]	Total unit[2] outside dimensions D[6]
		No.	*No.*		*In.*	*In.*	*In.*	*In.*	*In.*
PULL-OUT SHELVES									
Minimum	Master	2	1	14	18½	13	58½	20	14
	Boys'	2	1	10	18½	13	60	20	14
	Girls'	2	1	12	28½	13	63	30	14
Moderate	Master	2	1	14	22½	13	70	24	14
	Boys'	2	1	12	22½	13	70	24	14
	Girls'	2	2	13	24½	13	69½	51½	14
Liberal	Master	2 (M	1	9	22½	13	47)	47½	14
		(W	1	13	22½	13	68½)		
	Boys'	2	2	10	22½	13	54½	47½	14
	Girls'	2	2	13	28½	13	70	59½	14
STATIONARY OR FIXED SHELVES									
Minimum	Master	2	1	9	21	13	54½	22½	14
	Boys'	2	1	10	17	13	66	18½	14
	Girls'	2	1	11[7]	27	13	70½	28½	14
Moderate	Master	2 (M	1	10	17	13	63)	36½	14
		(W	1	12	17	13	70½)		
	Boys'	2	2	9	17	13	58	36½	14
	Girls'	2	(2	11	23	13	66)	66	14
			(1	8	17	13	66)		
Liberal	Master	2	2	11	21	13	70	44½	14
	Boys'	2	2	10	21	13	68	44½	14
	Girls'	2	(2	11	27	13	70)	74	14
			(1	8	17	13	60)		

[1] Fractional dimensions less than one half inch rounded to the next higher half inch. Each unit to have a base of such height that top of bottom shelf is at least 2 inches above floor.

[2] Includes all sections when more than one are required.

[3] Width for cutting shelves. For pull-out shelves this dimension includes allowance of ¾ inch at each end for portion that fits between cleats.

[4] Height required to provide space for garments. When less than 70½ inches are required, there will be extra space in the unit.

[5] Includes allowances for two ¾-inch ends and, in the case of units with more than one section, for ¾-inch partitions between sections.

[6] Includes allowances of ¾ inch for door, ¼ inch for back.

[7] Two girls store bouffant slips on the same shelf. See page 29.

ADAPTATION of SPECIFICATIONS

The units shown in Figures 3-12 are recommended. They make efficient use of floor space since they use the maximum height that will permit garments to be placed within reach of the users. In practice, however, there may be situations in which lower units are desirable. For instance, in bedrooms with high

window sills, a low unit may be placed beneath the window. Also, physically handicapped people may have shorter range of upper reach than others. In such cases the units illustrated may be so divided as to use about half the height and twice the floor space indicated. When dividing units, some extra height should be allowed for flexibility, since the division may not coincide with the required shelf spacing.

TABLE 3. STORAGE FOR FOLDED GARMENTS—SPECIFICATIONS FOR PULL-OUT SHELF UNITS WITH HEIGHTS OF 4 FEET OR LESS[1]

Level of ownership of garments	Bedroom	Persons using	Sections	No. in all sections	Shelves Dimensions W[3]	Shelves Dimensions D	Each section inside H	Total unit[2] outside dimensions W[4]	Total unit[2] outside dimensions D[5]	Total unit[2] outside dimensions H[6]
		No.	*No.*		*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Minimum	Master	2	2	14	18½	13	30	39½	14	33
	Master	2	1	9	22½	13	39	24	14	42
	Master	2	1	8	24½	13	38	26	14	41
Minimum	Boys'	2	2	10	18½	13	30	39½	14	33
	Boys'	2	2	8	22½	13	26	47½	14	29
	Boys'	2	1	8	24	13	45	25½	14	48
Minimum	Girls'	2	3	18	22½	12	34	70½	13	37
	Girls'	2	2	16	24	12	42	50½	13	45
	Girls'	2	2	12	28½	13	32	59½	14	35
Moderate	Master	2	3	24	18½	13	36	58½	14	39
	Master	2	2	14	22½	13	39	47½	14	42
	Master	2	2	12	28½	13	34	59½	14	37
Moderate	Boys'	2	3	18	18½	13	39	58½	14	42
	Boys'	2	2	12	22½	13	35	47½	14	38
	Boys'	2	2	10	28½	13	32	59½	14	35
Moderate	Girls'	2	4	30	22½	13	45	94	14	48
	Girls'	2	4	26	24½	13	38	102	14	41
	Girls'	2	3	22	28½	13	43	88½	14	46
Liberal	Master	2	3	22	22½	13	41	70½	14	44
	Master	2	3	21	24½	13	41	76½	14	44
	Master	2	2	16	28½	13	45	59½	14	48
Liberal	Boys'	2	4	28	18½	13	39	78	14	42
	Boys'	2	3	20	22½	13	40	70½	14	43
	Boys'	2	2	14	28½	13	39	59½	14	42
Liberal	Girls'	2	6	40	22½	13	42	140½	14	45
	Girls'	2	5	32	24½	13	40	127	14	43
	Girls'	2	4	26	28½	13	39	118	14	42

[1] Fractional dimensions less than ½ inch rounded to next higher half inch.
[2] Includes all sections when more than one are required.
[3] Width for cutting shelves. Includes space for clothing plus allowance for cleats.
[4] Includes allowances for 2 ¾-inch ends and, in the case of units with more than 1 section, for ¾-inch partitions between sections.
[5] Includes allowances of ¾ inch for door, ¼ inch for back.
[6] Includes allowances of 2 inches for base, 1 inch for top. In practice, height may be increased to fit requirements of the house.

Specifications prepared for low pull-out shelf units that accommodate the groups of garments shown in Figures 3-12 are given in Table 3, and for those with stationary or fixed shelves in Table 4. As in the case of Table 2, the shelf dimensions are sawing size. These dimensions, also, may be increased, but they should not be decreased.

TABLE 4. STORAGE FOR FOLDED GARMENTS—SPECIFICATIONS FOR FIXED OR STATIONARY SHELF UNITS WITH HEIGHTS OF 4 FEET OR LESS[1]

Level of ownership of garments	Bedroom	Persons using	Sections	Shelves: No. in all sections	Shelves: Dimensions: Each section inside W	Shelves: Dimensions: Each section inside D	Shelves: Dimensions: Each section inside H	Total unit[2] outside dimensions: W[3]	Total unit[2] outside dimensions: D[4]	Total unit[2] outside dimensions: H[5]
		No.	*No.*		*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
Minimum	Master	2	2	14	17	13	43	36½	14	46
	Master	2	2	9	21	13	33	44½	14	36
	Master	2	2	8	23	13	28	48½	14	31
Minimum	Boys'	2	2	10	17	13	33	36½	14	36
	Boys'	2	2	8	21	13	28	44½	14	31
	Boys'	2	2	8	23	13	27	48½	14	30
Minimum	Girls'	2	3	18	21	12	42	66	13	45
	Girls'	2	3	16	23	12	37	72	13	40
	Girls'	2	2	12	27	13	38	56½	14	41
Moderate	Master	2	4	24	17	13	35	72	14	38
	Master	2	3	14	21	13	33	66	14	36
	Master	2	2	12	27	13	43	56½	14	46
Moderate	Boys'	2	3	18	17	13	41	54	14	44
	Boys'	2	2	12	21	13	42	44½	14	45
	Boys'	2	2	10	27	13	36	56½	14	39
Moderate	Girls'	2	5	30	21	13	43	109½	14	46
	Girls'	2	4	26	23	13	45	96	14	48
	Girls'	2	4	22	27	13	37	112	14	40
Liberal	Master	2	4	22	21	13	41	88	14	44
	Master	2	4	21	23	13	38	96	14	41
	Master	2	3	16	27	13	41	84	14	44
Liberal	Boys'	2	4	28	17	13	45	72	14	48
	Boys'	2	3	20	21	13	45	66	14	48
	Boys'	2	3	14	27	13	33	84	14	36
Liberal	Girls'	2	7	40	21	13	43	153	14	46
	Girls'	2	6	32	23	13	40	143½	14	43
	Girls'	2	5	26	27	13	40	139½	14	43

[1] Fractional dimensions less than ½ inch rounded to next higher half inch.
[2] Includes all sections when more than one are required.
[3] Includes allowances of ¾ inch for each end and for each partition between sections.
[4] Includes allowances of ¾ inch for door; ¼ inch for back.
[5] Includes allowances of 2 inches for base, 1 inch for top. In practice, height may be increased to fit requirements of the house.

SUMMARY

Drawers, trays, or shelves may be used for storing folded garments. While drawer-type storage facilities are commercially available, shelving is cheaper to build.

Study of drawer and shelf storage for folded garments in home situations and in the laboratory indicated the following:

(1) Shelves are acceptable for storing folded garments.

(2) Pull-out shelves save space and make the garments stored readily accessible.

(3) Adjustable shelves are adaptable to changing needs.

(4) Easy shelf adjustment is attained by providing for shifting of shelves only, rather than shelves and supports.

Dimensional requirements for storage of folded garments were developed. Dimensions of individual garments after folding indicated that shelf depths of 12 to 16 inches were suitable for men's and boys' folded garments, and depths of 11 to 14 inches for women's and girls' garments. Placement of garments on shelves showed that use of the smaller depths usually resulted in space saving. Thirteen inches was selected as a practical depth for storing folded garments for any family member.

The height of cabinets for storing frequently-used clothing should not exceed 72 inches. Since shelves above the 72-inch height are useful for storing out-of-season garments and infrequently used items, the height of these units may be continued to the ceiling. The bottom shelf of a storage unit should be at least 2 inches above floor level to avoid floor dust.

Dimensions and other specifications were developed for storage units for family members at three levels of ownership of garments. Wood cleats $\frac{3}{4} \times \frac{3}{4}$ inches were used for supporting the adjustable pull-out shelves in the units developed. The cleats were placed at intervals of $1\frac{1}{2}$ inches on centers for use with shelves $\frac{1}{2}$ inch thick.

At any given level of ownership, the folded clothing of two boys required about the same amount of space as that of two parents. However, folded garments of two girls required considerably more space. In units 72 inches high with pull-out shelves 13 inches deep, **inside** width requirements are as follows:

Family Member	Level of Ownership*		
	Minimum	Moderate	Liberal
	Inches	*Inches*	*Inches*
Parents or two boys	18½	22½	2(22½)
Two girls	28½	2(24½)	2(28½)

* In such expressions as 2(24½), the number outside the parentheses indicates number of sections, while inside number indicates width of each section. Thus, 2(24½) should read: two sections, each 24½ inches wide.

Because of the wider shelf spacing required for units with stationary shelving, fewer shelves would be used in a given vertical space. Consequently, it is usually necessary when using fixed shelves to resort to wider shelves or add an extra section to store the same number of garments as would be accommodated by the pull-out shelf unit. The **inside** width requirements for 72-inch units with fixed or stationary shelves 13 inches deep are as follows:

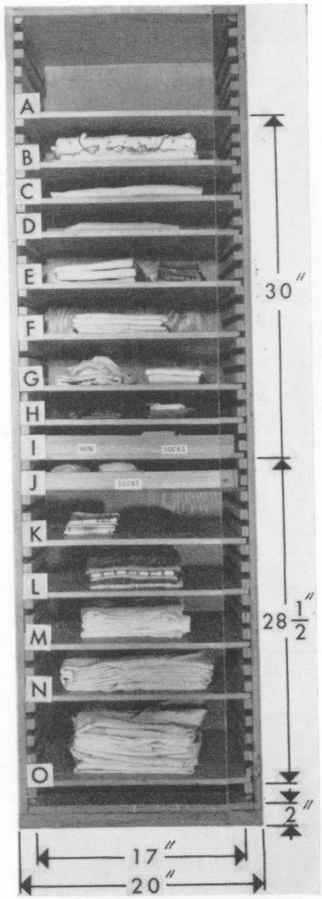
Family Member	Level of Ownership*		
	Minimum	Moderate	Liberal
	Inches	*Inches*	*Inches*
Parents	21	2(17)	2(21)
Two boys	17	2(17)	2(21)
Two girls	27	2(23)+17	2(27)+17

* The expression 2(23) + 17 should be read: two sections, each 23 inches wide and one section 17 inches wide.

When there is insufficient floor-to-ceiling space for tall shelf units, lower shelving may be placed under windows. However, this requires a greater amount of floor space. The amount required for a given set of garments depends on the height and arrangement of the shelving.

In pull-out shelf units with shelves 13 inches deep and overall heights of 48 inches or less, total inside width requirements for 2 persons range from 1 to 6 sections, each 22½ inches wide. In units of this kind with fixed or stationary shelves, total inside width requirements for 2 persons range from 2 sections, each 17 inches wide, to 7 sections, each 21 inches wide.

Fig. 3 SHELF STORAGE, MASTER BEDROOM, MAN and WOMAN—*Minimum number of folded garments*



ARRANGEMENT ON PULL-OUT SHELVES 18½×13×½ INCHES (NET SURFACE 17×13 INCHES)

Shelf	Garments		Distance between shelves	
			Pull-out	Fixed
	No.	*Kind*	*In.*	*In.*
		Woman		
B	2	Nightgowns	4	6
C	1	Trousers	2½	4
D	1	Cardigan sweater	2½	4
E	3 10	Slips Handkerchiefs	4	4½
F	4	Panties	4	5
G	3 2	Brassieres Vests	4	5
H	2 2 pr.	Scarfs Gloves	2½	5
I*	2 pr. 2 pr.	Hose Socks	2½	5
		Man		
J*	5 pr. 2 pr.	Work socks Dress socks	2½	5
K	6 1 pr.	Handkerchiefs Gloves	4	5
L	4	Woven shorts	4	5
M	4	Athletic undershirts	4	5
N	2	Union suits**	4	6½
O	4	Dress shirts	7	8
Total shelf distance			51½	73
Height, 14 shelves ½ inch thick			7	7
Total height required for man and woman			58½	80

* Tray; ** long fold.

In this unit **pull-out shelves** provide space for storing the folded garments of the man and woman.

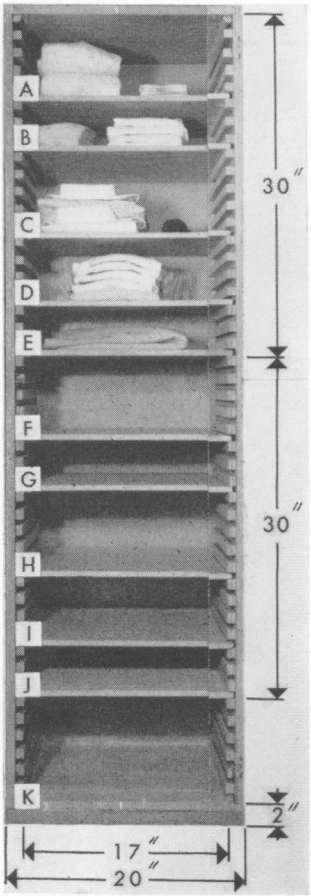
If fixed shelves are used, the folded garments of the man and woman should be arranged in a unit having inside dimensions of 21 x 13 inches and 54½ inches high to keep the garments within reach.

For other garments that may be stored folded on shelves with net surface of 17X13 inches or 21X13 inches, height requirements are as follows:

Garments		Distance between shelves*	
		Pull-out	Fixed
No.	*Kind*	*In.*	*In.*
1	Sport shirt	4	5
4	Work shirts	8½	8½
4	Work pants	7	7½

* Shelf thickness not included.

Fig. 4 **SHELF STORAGE for BOY**
Minimum number of folded garments



ARRANGEMENT ON PULL-OUT SHELVES 18½×13×½ INCHES (NET SURFACE 17×13 INCHES)

Shelf	Garments		Distance between shelves	
			Pull-out	Fixed
	No.	*Kind*	*In.*	*In.*
A	2 6	Union suits Handkerchiefs	7	7½
B	5 pr. 4	Work socks Knit brief shorts	4	5
C	3 2 pr.	Dress shirts Dress socks	7	7½
D	5	Shirts (4 T, 1 knit)	5½	6
E	1	Sweater	4	4½
Total shelf distance			27½	30½
Height, 5 shelves ½ inch thick			2½	2½
Total height required for one boy			30	33

Pull-out shelves in this unit provide space for storing **two boys' folded garments.** Shelves F through J are for garments of the second boy.

If fixed shelves are used, the total height required for the garments of **two boys,** 66 inches, is provided in this unit.

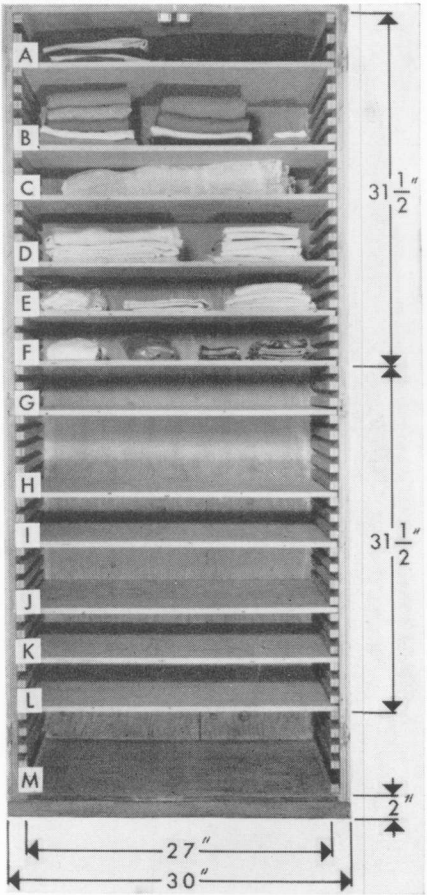
For other garments that may be stored folded on shelves with a net surface of 17X13 inches, height requirements are as follows:

Garments		Distance between shelves*	
		Pull-out	Fixed
No.	*Kind*	*In.*	*In.*
4	Work shirts	8½	8½
4	Work pants	7	7½

* Shelf thickness not included.

The foregoing information applies to folded garments of older boys. **For a boy under 6 years of age,** the garments that he needs to reach should be placed at a convenient level; those for which he needs adult help or supervision should be placed on higher shelves. **As the boy grows** the shelf spacing and height for storing garments should be adjusted accordingly.

Fig. 5 **SHELF STORAGE for GIRL**
Minimum number of folded garments



ARRANGEMENT ON PULL-OUT SHELVES 28½×13×½ INCHES (NET SURFACE 27×13 INCHES)

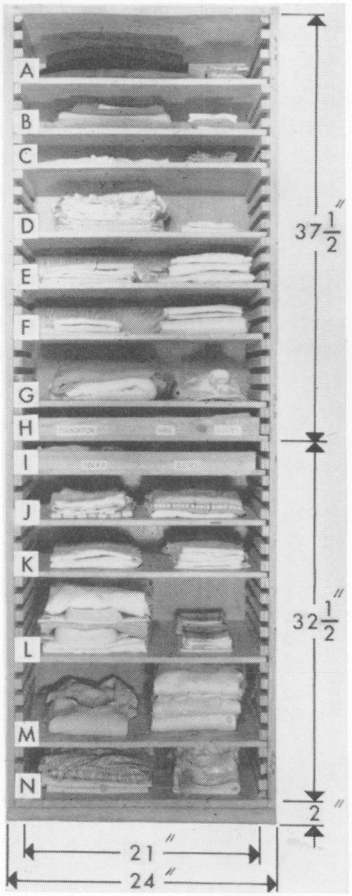
Shelf	Garments		Distance between shelves	
			Pull-out	Fixed
	No.	*Kind*	*In.*	*In.*
A	4	Shorts	4	6
	2	Trousers		
B	5	Pull-over sweaters	7	8
	4	Sweaters (3 cardigan 1 pull-over)		
	2 pr.	Gloves		
C	1	Bouffant slip	4	4
D	2	Long pajamas	5½	6½
	5	Slips		
E	4	Brassieres	4	5
	1	Foundation		
	6	Panties		
F	5 pr.	Socks	4	5
	2 pr.	Hose		
	10	Handkerchiefs		
	4	Scarfs		
Total shelf distance			28½	34½
Height, 6 shelves ½ inch thick			3	3
Total height required for one girl			31½	37½

In this unit **pull-out shelves** provide space for storing in-season folded garments of **two girls.** Shelves G through L are for the second girl. Each girl needs additional shelf space 13 inches wide and 5½ inches high for storing out-of-season nightwear.

If fixed shelves are used, the total height required for each girl is 37½ inches. **For two girls** a height of 70½ inches will be sufficient, provided they place their bouffant slips on the same shelf.

The foregoing information applies to folded garments of the girl in her late teens. **For a girl under 6 years of age,** the garments she needs to reach should be placed on shelves at a convenient, low level; those for which she needs adult help or supervision should be stored on higher shelves. **As the girl grows** the shelf spacing and height for storing garments are adjusted accordingly.

Fig. 6 SHELF STORAGE, MASTER BEDROOM, MAN and WOMAN—*Moderate number of folded garments*



ARRANGEMENT ON PULL-OUT SHELVES 22½ × 13 × ½ INCHES (NET SURFACE 21 × 13 INCHES)

Shelf	Garments		Distance between shelves	
			Pull-out	Fixed
	No.	*Kind*	*In.*	*In.*
		Woman		
A	3	Trousers	5½	7
	12	Handkerchiefs		
B	3	Shorts	4	5½
	3 pr.	Gloves		
C	1	Bed jacket	2½	5
	3	Scarfs		
D	3	Nightgowns (2 winter, 1 all year)	5½	6½
	2	Vests		
E	4	Brief panties	4	4½
	3	Slips		
F	3	Other panties	4	4½
	3	Slips		
G	2	Cardigans	5½	7
	4	Brassieres		
H*	1	Foundation	2½	5
	4 pr.	Hose		
	4 pr.	Socks		
		Man		
I*	6 pr.	Work socks	2½	5
	4 pr.	Dress socks		
	2 pr.	Gloves		
J	3	Shorts (2 brief 1 woven)	4	5
	4	Woven shorts		
K	2	T-shirts	4	5
	5	Ath. undershirts		
L	5	Dress shirts	7½	8½
	12	Handkerchiefs		
M	1	Knit shirt	7½	9
	3	Union suits		
N	2	Pajamas	4½	6
	1	Scarf		
Total shelf distance			63½	83½
Height, 14 shelves ½ inch thick			6½**	7
Total height required for man and woman			70	90½

* Tray; ** bottom of unit becomes bottom shelf, and no allowance is made for thickness of Shelf N.

Pull-out shelves in this unit provide space for storing folded garments of the man and the in-season folded garments of the woman. Additional shelf space 13 inches wide and 4 inches high is needed for storing the woman's out-of-season nightwear.

If fixed shelves are used, the total height requirements for shelves of the size illustrated (90½ inches) is too high for convenient use of the top shelves. Instead, two narrower units should be used. The folded garments of the man may be arranged in a unit 17X13X63 inches high, and those of the woman in a unit 17X13X70 inches high.

For other garments that may be stored folded on shelves with a net surface of 21X13 or 17X13 inches, height requirements are as follows:

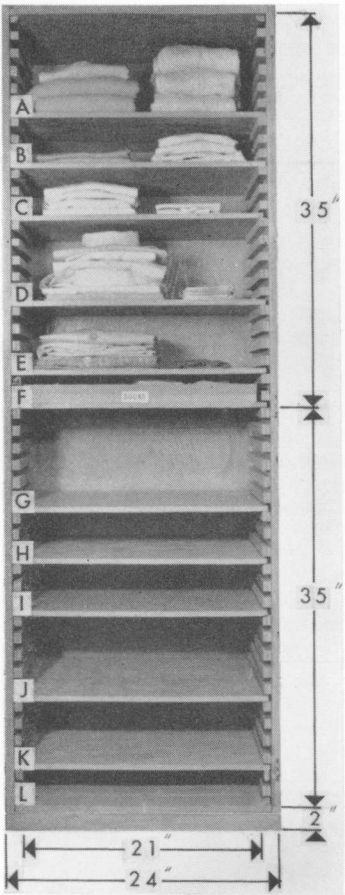
Garments		Distance between shelves*	
		Pull-out	Fixed
No.	*Kind*	*In.*	*In.*
2	Sport shirts	4	5
6	Work shirts** (2 shelves)	14 ***	16 ***
7	Work pants (2 shelves)	12½***	14½***
1	Coveralls	4	5

* Shelf thickness not included.

** The 6 work shirts may be placed on one shelf with a net surface of 21×13 inches if a long fold is used. When this is done, the distance between shelves becomes 8 inches for pull-out shelves, 9 inches for fixed shelves.

*** Total distance for two shelves.

Fig. 7 **SHELF STORAGE for BOY**
Moderate number of folded garments



ARRANGEMENT ON PULL-OUT SHELVES 22½×13×½ INCHES (NET SURFACE 21×13 INCHES)

Shelf	Garments		Distance between shelves	
			Pull-out	Fixed
	No.	*Kind*	*In.*	*In.*
A	3	Garments (1 knit shirt 2 sweaters)	8½	9
	3	Union suits		
B	2	Woven shorts	4	5
	4	Knit brief shorts		
C	4	T-shirts	4	5
	2	Athletic undershirts		
D	5	Dress shirts	7½	8½
	12	Handkerchiefs (2 stacks)		
E	2	Pajamas	5½	6
	1 pr.	Gloves		
F*	5 pr.	Dress socks	2½	5
	5 pr.	Work socks		
Total shelf distance			32	38½
Height, 6 shelves ½ inch thick			3	3
Total height required for one boy			35	41½

* Tray.

In this unit, **pull-out shelves** provide space for storing **two boys' folded garments.** Shelves G through L are for the garments of the second boy.

If fixed shelves are used, the total height required for garments of one boy is 41½ inches. **For two boys,** the height requirement for shelves of the size illustrated totals 83 inches. This is too high for convenient use of the top shelves. Therefore, two sets of shelves, each 17X13X58 inches high, are recommended.

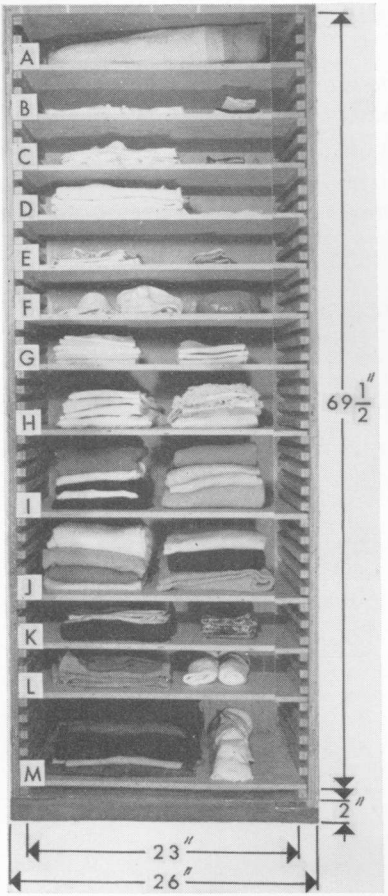
For other garments that may be stored folded on shelves with a net surface of 21X13 or 17X13 inches, height requirements are as follows:

Garments		Distance between shelves*	
		Pull-out	Fixed
No.	*Kind*	*In.*	*In.*
2	Sport shirts	4	5
6	Work shirts (2 shelves)	14**	16**
6	Work pants	8½	10

* Shelf thickness not included.
** Total distance for 2 shelves.

The foregoing applies to older boys' folded garments. **For a boy under 6 years of age,** the garments that he needs to reach should be placed at a convenient, low level; those for which he needs adult help or supervision should be placed on higher shelves. **As the boy grows** the shelf spacing and height for storing garments are adjusted accordingly.

Fig. 8 **SHELF STORAGE for GIRL**
Moderate number of folded garments



ARRANGEMENT ON PULL-OUT SHELVES 24½×13×½ INCHES (NET SURFACE 23×13 INCHES)

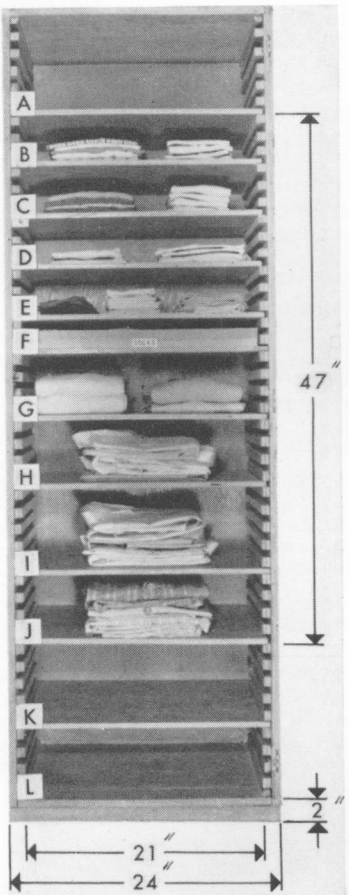
Shelf	Garments		Distance between shelves	
			Pull-out	Fixed
	No.	*Kind*	*In.*	*In.*
A	3	Bouffant slips	4½	4½
B	1	Bed jacket	4	5
	4 pr.	Gloves		
C	2	Mid-length nightgowns	4	5
	12	Handkerchiefs		
D	2 pr.	Long pajamas (long fold)	4	5
	1	Vest		
E	2	Foundations	4	4
	1	Garter belt		
F	1	Longline brassiere	4	5
	5	Brassieres		
	3 pr.	Hose		
G	7	Brief panties	4	5
	3	Other panties		
H	8	Slips (2 stacks)	5½	6½
I	9	Pull-over sweaters (2 stacks)	7	8
J	7	Cardigans (2 stacks)	7	8
K	4	Shorts	4	6
	9	Scarfs		
L	3	Shorts	4	5½
	4 pr.	Socks		
M	6	Trousers	7	9
	3 pr.	Socks		
Total shelf distance			63	76½
Height, 13 shelves ½ inch thick			6½	6½
Total height required for one girl			69½	83

Pull-out shelves in this unit provide space for storing the in-season folded garments of **one girl. For two girls** two units of this size are required. Each girl needs additional shelf space 13 inches wide and 5½ inches high for storing out-of-season night-wear.

If fixed shelves are used, the total height requirement of one girl for shelves of this size is 83 inches. This is too high for convenient use of the top shelves. An additional shelf unit should be used. **For two girls** use two sets of shelves, each 23X13X66 inches high, one for each girl; and one set of shelves 17X13X66 inches high to be shared by the two girls.

The foregoing information applies to the folded garments of the girl in her late teens. **For a girl under 6 years of age,** the garments that she needs to reach should be placed at a convenient, low level; those for which she needs adult help or supervision should be stored on higher shelves. **As the girl grows,** shelf spacing and height for storing garments are adjusted accordingly.

Fig. 9 **SHELF STORAGE, MASTER BEDROOM, MAN**
Liberal number of folded garments



ARRANGEMENT ON PULL-OUT SHELVES 22½×13×½ INCHES (NET SURFACE 21×13 INCHES)

Shelf	Garments		Distance between shelves	
			Pull-out	Fixed
	No.	*Kind*	*In.*	*In.*
B	5	Woven shorts	4	5
	4	Athletic undershirts		
C	4	Woven shorts	4	5
	4	Athletic undershirts		
D	2	Knit brief shorts	4	4½
	3	T-shirts		
E	3 pr.	Gloves	4	5
	18	Handkerchiefs (2 stacks)		
	2	Scarfs		
F*	6 pr.	Work socks	2½	5
	7 pr.	Dress socks		
G	2	Union suits	5½	7½
	2	Knit shirts		
H	3	Dress shirts	5½	7½
I	4	Dress shirts	7	8
J	3	Pajamas	6	7
Total shelf distance			42½	54½
Height, 9 shelves ½ inch thick			4½	4½
Total height required for man			47	59

* Tray.

In this unit **pull-out shelves** provide space for storing the man's folded garments. A height of nearly 2 feet remains unused.

If fixed shelves are used, the total height requirement for the man's folded garments is 59 inches, which is amply provided in this unit.

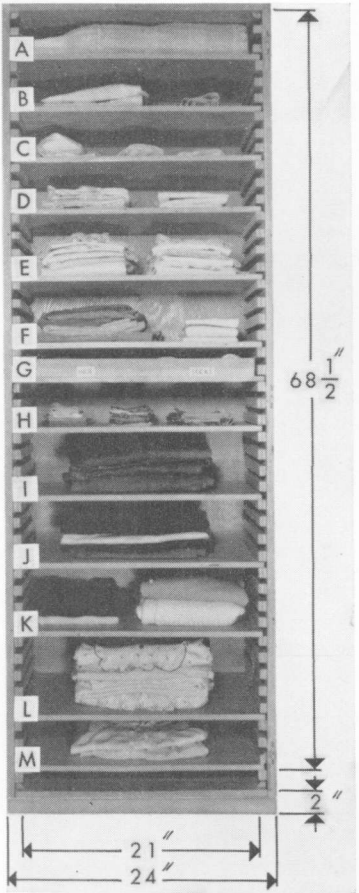
For other garments that may be stored folded on shelves with a net surface of 21X13 inches, height requirements are as follows:

Garments		Distance between shelves*	
		Pull-out	Fixed
No.	*Kind*	*In.*	*In.*
3	Sport shirts	4	5½
8	Work shirts (2 shelves)	14 **	18 **
7	Work pants (2 shelves)	12½ **	14½ **
4	Jeans	7	8
1	Coveralls	4	5

* Shelf thickness not included.
** Total distance for two shelves.

Fig. 10 SHELF STORAGE, MASTER BEDROOM, WOMAN

Liberal number of folded garments



ARRANGEMENT ON PULL-OUT SHELVES 22½×13×½ INCHES (NET SURFACE 21×13 INCHES)

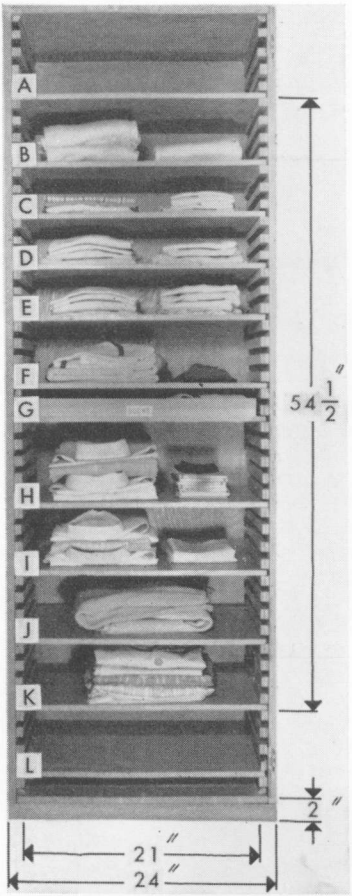
Shelf	Garments		Distance between shelves	
			Pull-out	Fixed
	No.	*Kind*	*In.*	*In.*
A	1	Bouffant slip	4	4
B	2	Foundations	4	4½
	1	Garter belt		
C	5	Brassieres (2 stacks)	4	5
	1	Longline brassiere		
D	5	Brief panties	4	5
	4	Other panties		
E	9	Slips (2 stacks)	5½	6½
F	5	Shorts	5½	7
	3	Vests		
G*	5 pr.	Hose	2½	5
	5 pr.	Socks		
H	4 pr.	Gloves	4	5
	18	Handkerchiefs (2 stacks)		
	4	Scarfs		
I	3	Trousers (jeans)	5½	7
J	4	Trousers	5½	7
K	2	Pull-over sweaters	5½	7
	2	Cardigans		
L	4	Nightgowns (2 winter · 2 all-year)	7½	7½
M	2	Bed jackets	4½	5
Total shelf distance			62	75½
Height, 13 shelves ½ inch thick			6½	6½
Total height required for woman			68½	82

* Tray.

Pull-out shelves in this unit provide space for storing the in-season folded garments of the woman. Additional shelf space 13 inches wide and 4 inches high is needed for storing the woman's out-of-season nightwear.

If fixed shelves are used, the total height required for the woman is supplied by this unit and the unused space in the man's unit. (See page 36.)

Fig. 11 **SHELF STORAGE for BOY**
Liberal number of folded garments



ARRANGEMENT ON PULL-OUT SHELVES 22½×13×½ INCHES (NET SURFACE 21×13 INCHES)

Shelf	Garments		Distance between shelves	
			Pull-out	Fixed
	No.	*Kind*	*In.*	*In.*
B	2 1	Union suits Union suit	5½	7½
C	3 4	Woven shorts Athletic undershirts	4	5
D	4 4	T-shirts Knit brief shorts	4	5
E	4 4	T-shirts Knit brief shorts	4	5
F	3 2 pr.	Knit shirts Gloves	5½	6½
G*	7 pr. 5 pr.	Dress socks Work socks	2½	5
H	4 18	Dress shirts Handkerchiefs (2 stacks)	7	8
I	3 1	Dress shirts Scarf	5½	7½
J	2	Sweaters	5½	6½
K	3	Pajamas	6	7
Total shelf distance			49½	63
Height, 10 shelves ½ inch thick			5	5
Total height required for one boy			54½	68

* Tray.

In this unit **pull-out shelves** provide space for storing **one boy's folded garments. For two boys** two units of this size are required.

If fixed shelves are used, the total height required for the garments of one boy is 68 inches. **For two boys** two sets of shelves of this size will be required.

For other garments that may be stored folded on shelves with a net surface of 21X13 inches, height requirements are as follows:

Garments		Distance between shelves*	
		Pull-out	Fixed
No.	*Kind*	*In.*	*In.*
3	Sport shirts	4	5½
6	Work shirts** (2 shelves)	14***	16***
3	Jeans	5½	7
3	Work pants	5½	6½
1	Coveralls	4	5

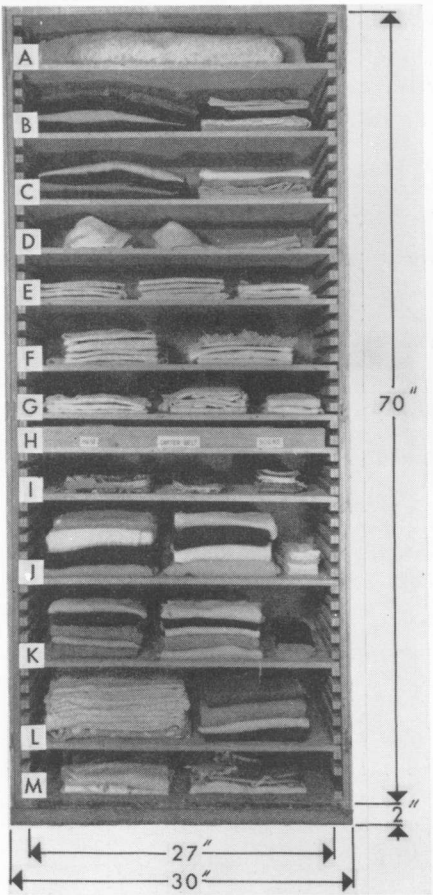
* Shelf thickness not included.

** The 6 work shirts may be placed on one shelf having a net surface of 21×13 inches if long fold is used. In such case, the distance between shelves becomes 8½ inches for pull-out shelves, 9 inches for fixed.

*** Total distance for two shelves.

The foregoing information applies to older boys' folded garments. **For a boy under 6 years of age,** the garments that he needs to reach should be placed at a convenient, low level; those for which he needs adult help or supervision should be stored on higher shelves. **As the boy grows,** the shelf spacing and height for storing garments should be adjusted accordingly.

Fig. 12 **SHELF STORAGE for GIRL**
Liberal number of folded garments



ARRANGEMENT ON PULL-OUT SHELVES 28½×13×½ INCHES (NET SURFACE 27×13 INCHES)

Shelf	Garments		Distance between shelves	
			Pull-out	Fixed
	No.	*Kind*	*In.*	*In.*
A	4	Bouffant slips	4	4
B	4	Trousers	5½	7
	4	Shorts		
C	4	Trousers	5½	7
	4	Shorts		
D	6	Brassieres	4	5
	1	Longline brassiere		
E	10	Briefs (2 stacks)	4	5
	4	Panties		
F	9	Slips (2 stacks)	5½	6½
G	3	Slips	4	5
	3	Foundations		
	2	Vests		
H*	4 pr.	Hose	2½	5
	1	Garter belt		
	11 pr.	Socks		
I	12	Scarfs (2 stacks)	4	5
	18	Handkerchiefs (2 stacks)		
J	8	Cardigans	7	8
	4 pr.	Gloves		
K	10	Pull-over sweaters	7	8
	3 pr.	Gloves		
L	4	Long pajamas	7	8
	4	Pull-over sweaters		
M	2	Nightgowns	4	5
	2	Bed jackets		
Total shelf distance			64	78
Height, 13 shelves ½ inch thick			6**	6½
Total height required for one girl			70	84½

* Tray; ** bottom of unit becomes bottom shelf; no allowance is made for thickness of shelf M.

Pull-out shelves in this unit provide space for storing the in-season folded garments of **one girl. For two girls** two units of this size are required. Each girl needs additional shelf space 13 inches wide and 7 inches high for storing out-of-season nightwear.

If fixed shelves are used, the total height requirement of one girl for shelves of this size is 85 inches, which is too high for convenient use of the top shelves. An additional shelf unit should be provided. **For two girls** two sets of shelves each 27X13X70 inches high should be used (one for each girl), and one set 17X13X70 inches high should be shared by the two girls.

The foregoing information applies to the folded garments of the girl in her late teens. **For a girl under 6 years of age,** the garments that she needs to reach should be placed at a convenient, low level; those for which she needs adult help or supervision should be stored on higher shelves. **As the girl grows** shelf spacing and height for storing garments should be adjusted accordingly.

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