

Dec. 12, 1967

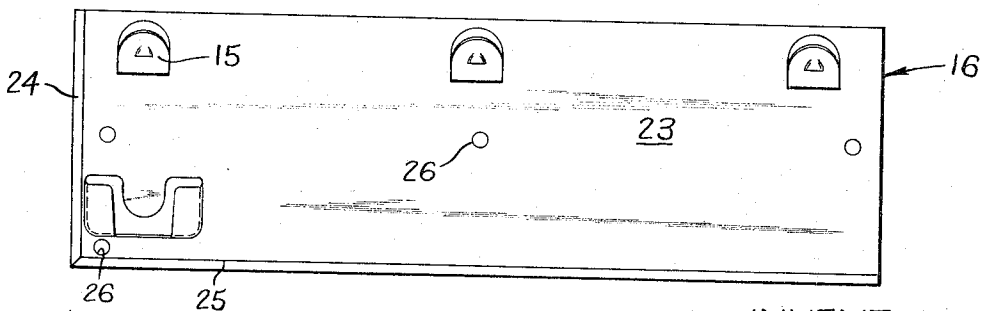
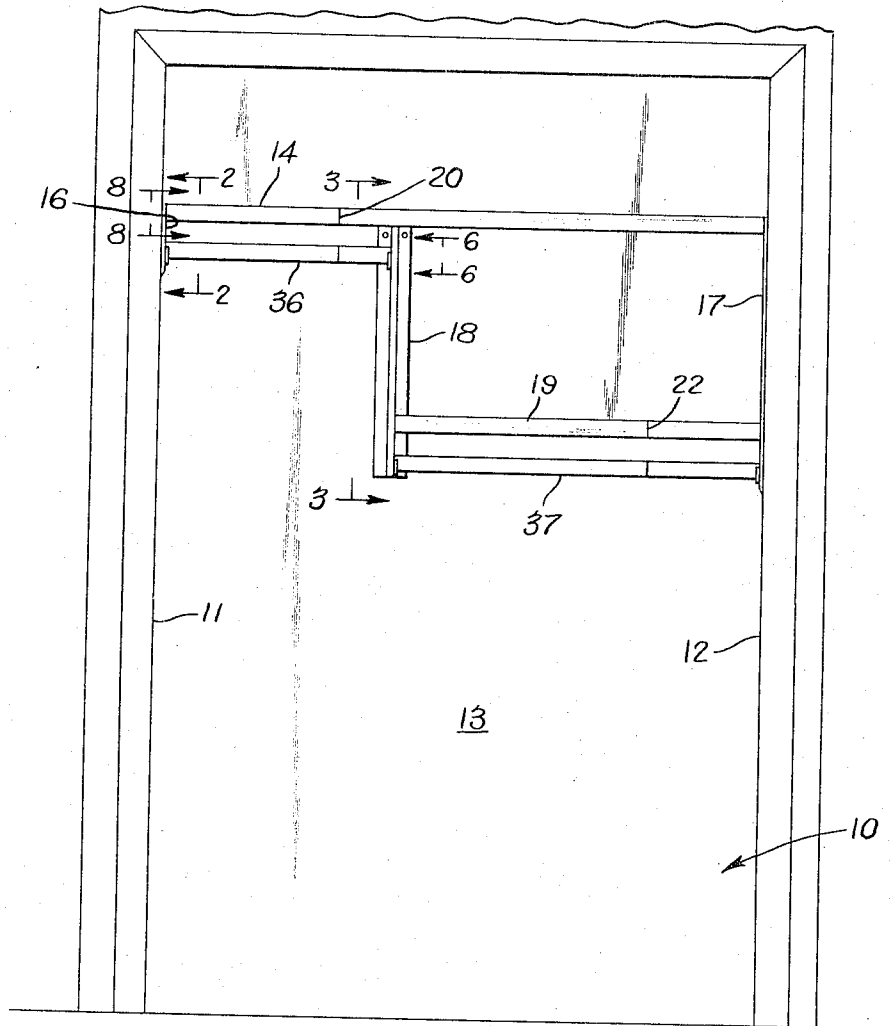
L. L. SMITH ET AL

3,357,374

WARDROBE SHELF AND HANGER POLE ASSEMBLY

Filed Feb. 28, 1966

3 Sheets-Sheet 1



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Fig. 7.

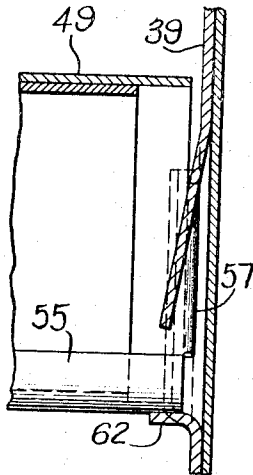


Fig. 6.

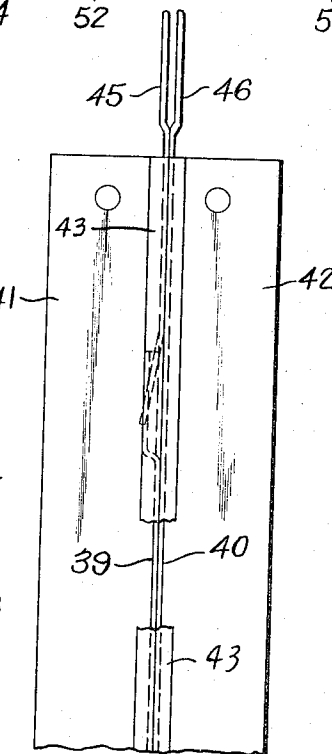
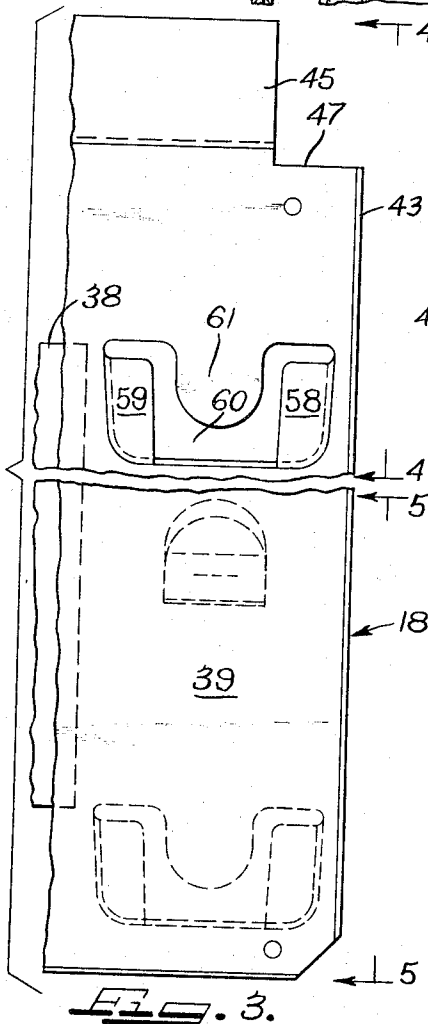
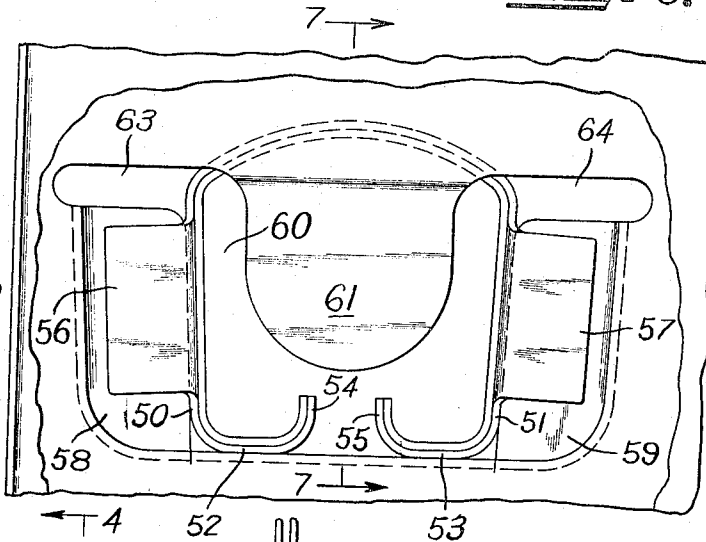


Fig. 4.

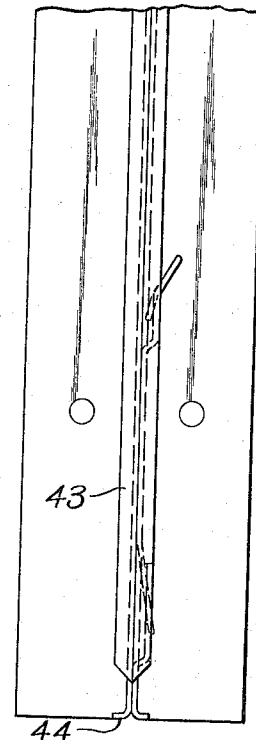


Fig. 5.

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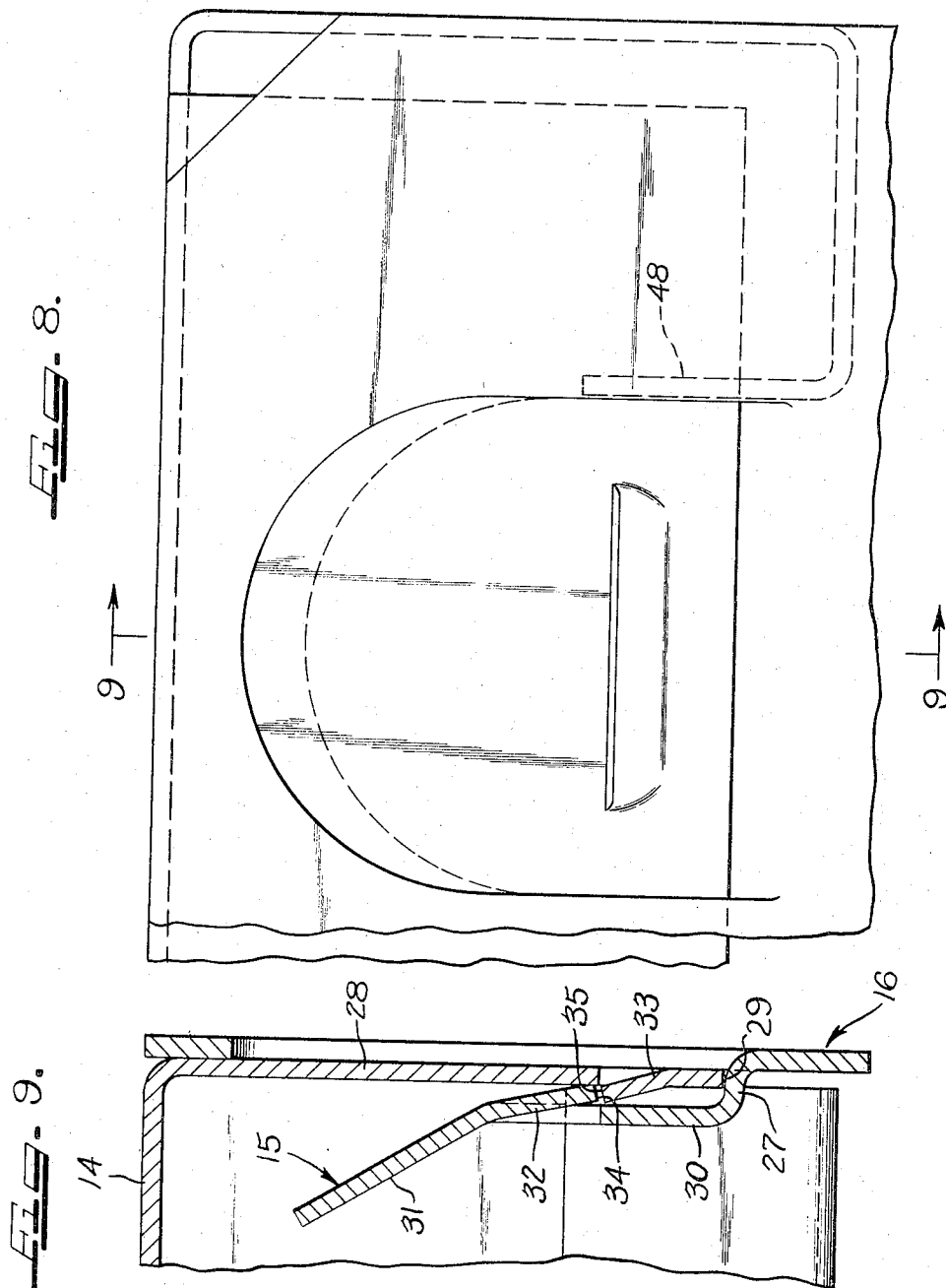
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3 Sheets-Sheet 3



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3,357,374

WARDROBE SHELF AND HANGER
POLE ASSEMBLY

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8 Claims. (Cl. 108—29)

This invention relates to a wardrobe shelf and pole assembly, and more particularly to an ensemble of adjustable and coacting supports, poles and shelves suited to use for the hanging and storage of clothing and other articles in closets and the like.

One of the objects of the invention is to provide a shelf and hanger pole assembly which can be quickly and easily installed in closets or spaces of different sizes and which provides a shelf which is lower than is customary without diminishing the usable hanger pole storage area.

Another object of this invention is to provide a shelf and hanger pole ensemble in which the shelves and poles interlock with their supports and retain their assembled relationships.

As another object, this invention has within its purview the provision of a shelf and hanger pole ensemble composed of parts which can be readily fabricated from sheet metal.

This invention further comprehends a wardrobe shelf assembly having middle and end supports which coact with shelves and poles to provide those facilities at different levels and in a convenient arrangement for use.

It is another object of this invention to provide a shelf and shelf support each made of sheet metal and which have parts adapted to coact when the shelf is put in place to hold the shelf on its support.

Our invention also comprehends the provision of a hanger pole and its supports from sheet metal with parts constructed and arranged for locking the pole in place on its supports.

Other objects of this invention will become apparent from the following detailed description of a preferred embodiment thereof when taken together with the accompanying drawings in which

FIG. 1 is a front elevational view of a clothes closet in which the wardrobe shelf and pole assembly of this invention is installed;

FIG. 2 is an enlarged side elevational view of the shorter end plate of the assembly looking in the direction of the arrows 2—2 in FIG. 1;

FIG. 3 is an enlarged fragmentary side elevational view of an intermediate bracket of the assembly looking in the direction of the arrows 3—3 in FIG. 1;

FIG. 4 is a fragmentary front elevational view of the upper portion of the intermediate bracket of the assembly looking in the direction of the arrows 4—4 of FIG. 3;

FIG. 5 is a fragmentary front elevational view of the lower portion of the intermediate bracket of the assembly looking in the direction of the arrows 5—5 of FIG. 3;

FIG. 6 is an enlarged fragmentary side elevational view of the upper portion of the intermediate bracket looking in the direction of the arrows 6—6 of FIG. 1;

FIG. 7 is a fragmentary front elevational view in section of the upper portion of the intermediate bracket looking in the direction of the arrows 7—7 of FIG. 6;

FIG. 8 is an enlarged fragmentary end elevational view of the shorter wall plate of the assembly looking in the direction of the arrows 8—8 of FIG. 1; and

FIG. 9 is a fragmentary section through the wall plate of FIG. 8 taken along line 9—9 of FIG. 8.

Referring now to the drawings for a detailed description of the invention and particularly to FIG. 1, there

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is shown a small chamber 10 which may be a clothes closet or a free-standing wardrobe cabinet in a home, dormitory, hotel, or the like, the chamber being defined by the opposed side walls 11, 12, a back wall 13, and a ceiling (not shown). It is contemplated that the closet will provide shelves for storage of relatively large articles, such as traveling bags, hat boxes, etc., as well as for storage of smaller articles, such as hats, smaller containers, or the like. It is contemplated further that at least a portion of the shelving will be disposed at a lower elevation than normal for easy accessibility by the average person while providing space for hanging long garments.

According to this invention, recognition is given to the fact that less than half of the clothing normally worn is full length and that the space normally reserved for clothing which is stored on hangers can be utilized more efficiently by dividing it into two side-by-side sections, one for long clothing and the other for short clothing, such as jackets, skirts, folded trousers, etc., and the latter can then be used to accommodate a partial shelf above the short clothing which adds to the total shelf area available in the closet while at the same time improving the accessibility of the shelf to the average person.

It is contemplated further, according to this invention, that the shelving, hanger poles and the supports therefor will be supplied as an assembly of pre-fabricated shelves, clothes poles, wall plates and wall brackets, the shelves and poles of which are so designed as to be expandable to accommodate closet areas of different widths. Accordingly, the assembly of the invention is comprised of a pre-fabricated sheet metal shelf 14 supported on similarly pre-fabricated sheet metal wall plates 16 and 17 secured to side walls 11 and 12, respectively, of chamber 10 and on an intermediate pre-fabricated sheet metal wall bracket 18 secured to rear wall 13. Wall plate 17 is longer than wall plate 16, and bracket 18 is approximately of the same length as wall plate 17. Thus a second pre-fabricated sheet metal shelf 19 is supported on wall plate 17 and intermediate bracket 18 below shelf 14. Each of the shelves 14 and 19 is made of two sections, one of which is telescoped into the other according to the construction disclosed in United States Patent No. 2,948,405 to Lester L. Smith for Shelf and Supports Therefor granted Aug. 19, 1960, to accommodate various widths of chambers. The end of each shelf into which the second section thereof is telescoped is indicated at 20 and 22.

Wall plates 16 and 17 on which both ends of shelf 14 and on one of which one end of shelf 19 are supported, are similar in construction, differing only as to height and hence only wall plate 16 (FIG. 2) will be described in detail. Said wall plate 16 is preferably made from a single sheet of metal 23 which may have any desired configuration, but which is shown as rectangular, the front and bottom edges 24 and 25 of which may be bent at approximately 15° from the plane of the plate to stiffen the plate as well as to improve its appearance. Openings 26 of suitable size and spacing are provided for fasteners (not shown) by which the plate is secured to wall 11. The shelf 14 is supported from wall plates 16 and 17 by shelf tabs 15, of which there may be any number, or the tabs may be combined into one long tab (not shown), said tabs being struck inwardly from the plane of the plate and cooperating with the end of the shelf as shown more clearly in FIGS. 8 and 9.

As seen in FIG. 9, each tab 15 has a lower portion 27 which is bent substantially at right angles to the plane of the wall plate to provide a horizontal abutment. Shelf 14 has an end wall 28 which is bent downwardly from the general plane of the shelf, the bottom end 29 of which rests upon abutment 27 and thus supports shelf 14 from

wall plate 16. Each tab 15 then is bent upwardly parallel to shelf end 28 at 30 and then angularly inwardly at its end 31, the angular bend serving to guide shelf end 28 into the parallel portion 30 during the assembly of the shelf on wall plate 16.

According to this invention, means are provided for locking shelf 14 on its supporting wall plates 16 and 17 to prevent or at least discourage unauthorized persons from removing the shelf from the closet. The locking means is of a resilient snap type which becomes operative automatically when the shelf is mounted on the wall plates. Adverting to FIGS. 8 and 9, the locking means is comprised of an angular offset 32 on the parallel portion 30 of each tab 15 and a corresponding angular offset 33 on the end 28 aligned with and opposed to angular offset 32, the metal at the offsets being preferably sheared and displaced to provide confronting edges 34 and 35 when the shelf is in place. It may be noted that angular offset 32 extends into the space between the parallel portion 30 of tab 15 and plate 23, and that said space is not large enough to accommodate offset 33 unless tab 15 is sprung outwardly like a ratchet to allow offset 33 to pass. After said offset 33 passes offset 32 on the tab, said tab snaps back and edges 34 and 35 then confront one another and prevent a reverse movement of end 28, thereby locking shelf 14 to wall plate 16.

It is understood that the opposite end of shelf 14 is secured to wall plate 17 in the same manner as was described with respect to plate 16 and that shelf 19 is also secured to intermediate bracket 18 and wall plate 17 in the same manner.

In addition to shelves 14 and 19, the assembly of this invention includes extensible sheet metal hanger poles 36 and 37 which are disposed between wall plate 16 and intermediate bracket 18 and between intermediate bracket 18 and wall plate 17 below shelves 14 and 19. Said poles 36 and 37 are of substantially the same construction and differ from one another only in length. The method of attachment of the ends of the poles to the plates and bracket is likewise the same for both poles and hence but one attachment will be described in detail herein.

Referring now to FIGS. 3-7, intermediate wall bracket 18 may be fabricated from metal sheets 39 and 40, appropriately riveted together to form a unitary bracket. The rear edge regions of the sheets 39 and 40 are bent outwardly to form attaching flanges 41 and 42. The front and bottom edges 43 and 44 of each sheet 41 and 42 are bent outwardly to stiffen the sheets and to provide a means for attaching an extruded flexible protective and ornamental edging in accordance with known construction. The upper ends 45 and 46 of the sheets 39 and 40 have corner notches such as 47 in which the formed sides 48 (shown dotted on FIG. 8) of shelf 14 are received so that said intermediate bracket provides support for upper shelf 14 at the central regions thereof. Additional support is provided by the customary turned-down stiffening flange on the end of the inner section of shelf 14 which is inserted between the upper ends 45 and 46 of the sheets 39 and 40. Such turned-down end is shown in L. L. Smith U.S. Patent No. 2,948,405 issued Aug. 9, 1960 for Shelf and Support Therefor.

Each hanger pole is made of sheet metal which is formed to have a rounded top 49, substantially straight sides 50 and 51, bottom sections 52, 53 and upwardly turned ends 54, 55 which add to the stiffness of the pole. Sides 50, 51 terminate in transversely disposed coplanar ears 56, 57 which are adapted to be received behind spaced offsets 58, 59 on sheet 39. Said offsets are defined in part by an opening 60 in sheet 39 which is so formed as to leave a central tongue 61 extending downwardly toward the bottom of the opening. The bottom edge of the opening 60 is defined by a flange 62 formed outwardly of the sheet 39 and extending between and slightly beyond offsets 58 and 59.

As seen in FIGS. 6 and 7, ears 56, 57 are inserted into opening 60 through the upper wing-like portions 63, 64 thereof behind offsets 58, 59, and pole 36 is pushed downward until the bottom portions 52, 53 thereof rest upon flange 62. Top 49 cannot move toward sheet 38 and ears 56, 57 cannot move in the opposite direction. Pole 36 is therefore locked against endwise movement relative to sheet 39. Lifting of the pole by unauthorized persons is minimized by interlocking the end of the pole to sheet 39. To this end, tongue 61 is bent outwardly as shown in FIG. 7 and into the open end of pole 36 above the upwardly turned ends 54, 55. When pole 36 is inserted behind offsets 58, 59, said upturned ends 54, 55 cam tongue 61 out of the way, and when the tongue is passed, said tongue snaps back over ends 54, 55, thus blocking a return movement of pole 36. Both ends of each pole are similarly constructed and are received in similarly formed openings in the plates and intermediate bracket.

The shelf and hanger pole assembly of this invention is readily shipped in disassembled or "knock-down" condition as shelves, poles, plates and brackets, each of which may be a standard stock item selected to fit the particular width of the closet to be furnished. The number of stock sizes of the shelves and poles is kept at a minimum because of the extensibility of these items, each shelf and pole being adaptable for a range of sizes of closet. The installation of the shelf and pole assembly is effected by first attaching the wall plates 16 and 17 to their respective opposed walls, then aligning intermediate bracket 18 with said wall plates and securing it to the rear wall with the space between ends 45 and 46 thereof at a distance from one of said side walls equal to the length of the inner section of shelf 14 from wall plate 16 to the turned down end of said inner section, and finally extending the poles and shelves to the proper dimension and snapping them into their respective supports. Once assembled, the resiliently held interlocks discourage disassembly except by removing the shelves and poles as a unit from the walls of the closet.

Although the shelves and poles have been described as comprised of sheet metal extensible parts having one element of the interlocking attaching means formed integrally thereon, it is understood that said shelves and poles need not be sheet metal nor made of extensible parts, and that the said one element of the attaching means may be formed separately and appropriately secured to the ends of said shelves and poles. The foregoing description may therefore be taken as merely illustrative of a preferred embodiment of the invention and the scope of the invention accordingly is not to be limited thereto, but is to be determined by the appended claims.

We claim:

1. A wardrobe shelf and hanger pole assembly for mounting on the walls of closets and the like and comprising, in combination, a pair of wall plates of different vertical dimensions adapted to be secured to opposed walls, an intermediate wall bracket of substantially the same vertical dimension as the larger wall plate and mountable on another wall to project between said wall plates in substantially parallel relationship thereto, first shelf means mounted at the upper regions of said wall plates and bracket and supported thereby, a hanger pole extending between and supported by the smaller wall plate and said wall bracket in spaced and substantially parallel relationship to said first shelf means, a second shelf means extending between and supported by said wall bracket and the larger wall plate in spaced and substantially parallel relationship to said first shelf means, and a hanger pole extending between and supported by the wall bracket and the larger wall plate in spaced and substantially parallel relationship with said second shelf.

2. A wardrobe shelf and hanger pole assembly as defined in claim 1, and wherein said first shelf means comprises an extensible sheet metal shelf including two

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telescopically connected sections, one end of said shelf being interlocked with one wall plate, the other end being interlocked with the other wall plate, and an intermediate portion of which rests upon said wall bracket.

3. A wardrobe shelf and hanger pole assembly as defined in claim 1, and interlocking means connecting one of the ends of each of the hanger poles to its respective wall plate and wall bracket.

4. A wardrobe shelf and hanger pole assembly as described in claim 1, and resiliently biased interlocking means connecting one of the ends of each of the hanger poles to its respective wall plate and wall bracket.

5. A wardrobe shelf and hanger pole assembly as described in claim 1, the tops of the wall plates and intermediate wall bracket being at substantially the same level, said first shelf means comprising a first extensible shelf including two telescopically connected sections and mounted at its ends on said wall plates and a second extensible shelf including two telescopically connected sections and mounted at its ends on one wall plate and on the intermediate wall bracket, and resiliently biased interlocking means connecting said ends of the extensible shelves to the said wall plates and the intermediate wall bracket.

6. An attachment for a support for clothes or the like, comprising a sheet metal plate adapted to be secured to a wall, said plate having a vertically and outwardly extending tongue, said tongue having an inwardly extending portion forming a transverse abutment, and a downwardly extending sheet metal end on the support adapted to be inserted between the tongue and plate, said end having an outwardly extending portion forming a transverse abutment adapted to pass adjacent to and under the transverse abutment on the tongue to interlock the sheet metal support end to the plate, said support comprising a sheet metal shelf, said sheet metal support end comprising a downwardly extending flange on the sheet metal shelf, and said outwardly extending portion on

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said end comprising a sheared portion presenting an offset edge to form said transverse abutment.

7. An attachment as defined in claim 6, said tongue on the plate being resilient and adapted to move laterally of the plate to allow the said ears of the pole to be inserted between the plate and offset.

8. An attachment for a support for clothes or the like, comprising a sheet metal plate adapted to be secured to a wall, said plate having a vertically and outwardly extending tongue, said tongue having an outwardly extending portion forming a transverse abutment, and a downwardly extending sheet metal end on the support adapted to be inserted between the tongue and plate, said end having an outwardly extending portion forming a transverse abutment adapted to pass adjacent to and under the transverse abutment on the tongue to interlock the sheet metal support end to the plate, said support comprising a hollow sheet metal pole, said sheet metal support end comprising a pair of diverging ears on the end of said pole, a pair of offsets on the plate, said ears being insertable between the plate and offsets, an abutment on the plate on which the pole is supported and a tongue on the plate extending into the hollow pole and cooperating with portions of the pole to prevent removal of said pole from said plate.

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