United States Patent

[11] **3,563,182**

[72] Inventors **Walter J. MacFarlane**
Kensington;
Edmund F. Reiss, Newington, Conn.; Joffre E. R. Hentzi, Dunedin, Fla.

[21] Appl. No. **751,966**
[22] Filed **Aug. 12, 1968**
[45] Patented **Feb. 16, 1971**
[73] Assignee **The Stanley Works**
New Britain, Conn.
a corporation of Connecticut

[54] **COMBINED SHELVING AND CLOTHES BAR APPARATUS**
12 Claims, 11 Drawing Figs.

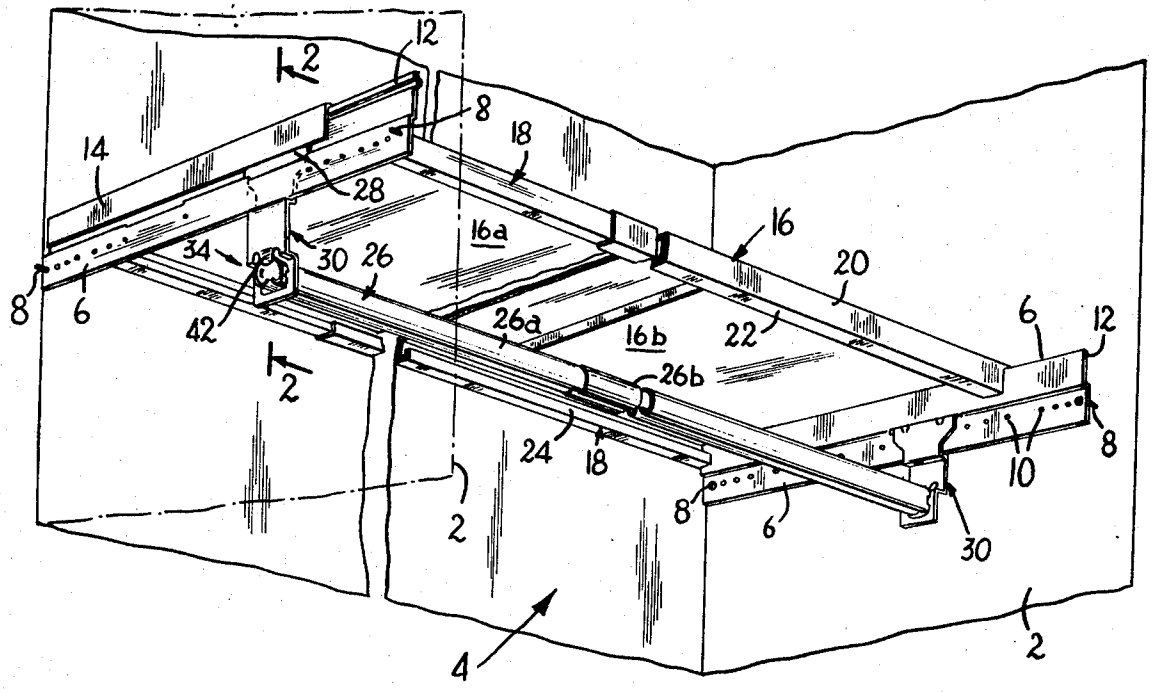
[52] **U.S. Cl.** **108/29,** 211/124, 108/138
[51] **Int. Cl.** **A47b 57/00**
[50] **Field of Search** 108/29, 137, 138, 133, 152; 211/90, 123, 124, 176, 160; 312/342

[56] **References Cited**
UNITED STATES PATENTS

1,043,950	11/1912	Martin	108/137X
1,090,724	3/1914	Koehler	108/29
2,720,316	10/1955	Glascott	211/123X
2,757,804	8/1956	Sadwin	211/123X
2,768,043	8/1956	Kristoff et al.	108/137X
2,839,261	6/1958	Sprouse et al.	211/90X
3,174,627	3/1965	Marschak	211/90X
3,220,363	11/1965	Gingher	108/144

Primary Examiner—James T. McCall
Assistant Examiner—Glenn O. Finch
Attorney—Brumbaugh, Graves, Donohue & Raymond

ABSTRACT: A combined shelf and clothes bar structure adapted to be fastened inside of various sized clothes closets. Support members for the shelf and clothes bar may be secured by mounting devices either to the sidewalls or back wall of the closet and the entire structure easily installed without the use of special tools.

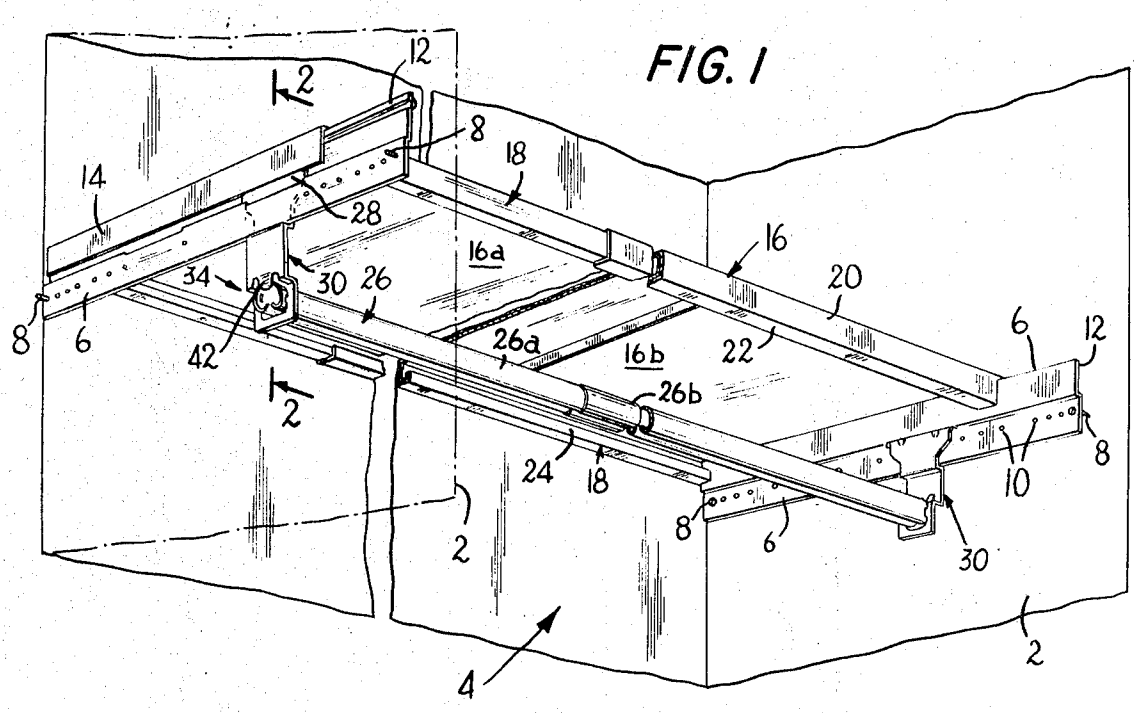


PATENTED FEB 16 1971

3,563,182

SHEET 1 OF 3

FIG. 1



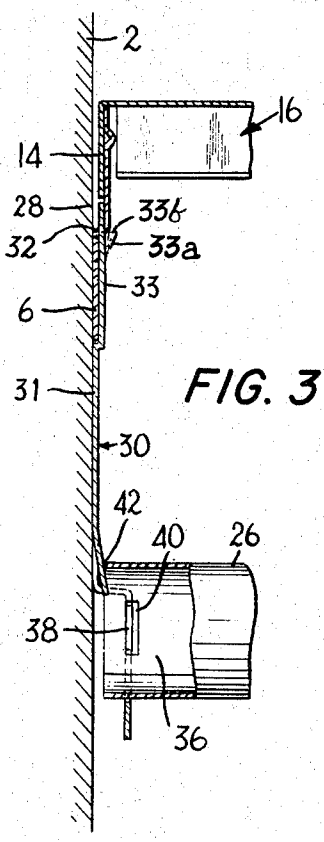


FIG. 3

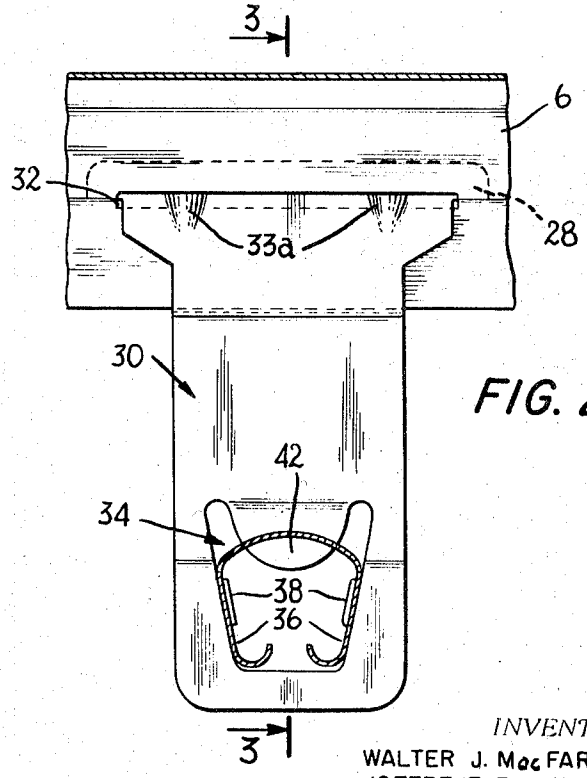


FIG. 2

INVENTORS
WALTER J. MacFARLANE,
JOFFRE E. R. HENTZI &
EDMUND F. REISS

BY

Brumbaugh, Free, Graves + Donohue
their ATTORNEYS

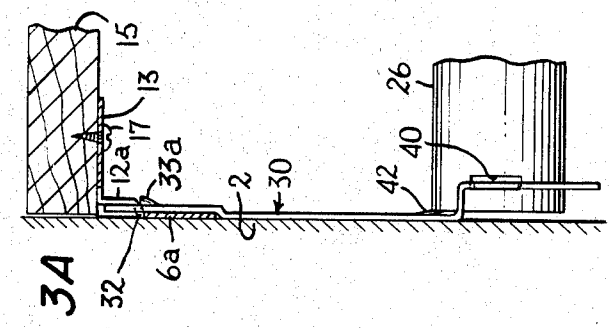


FIG. 3A

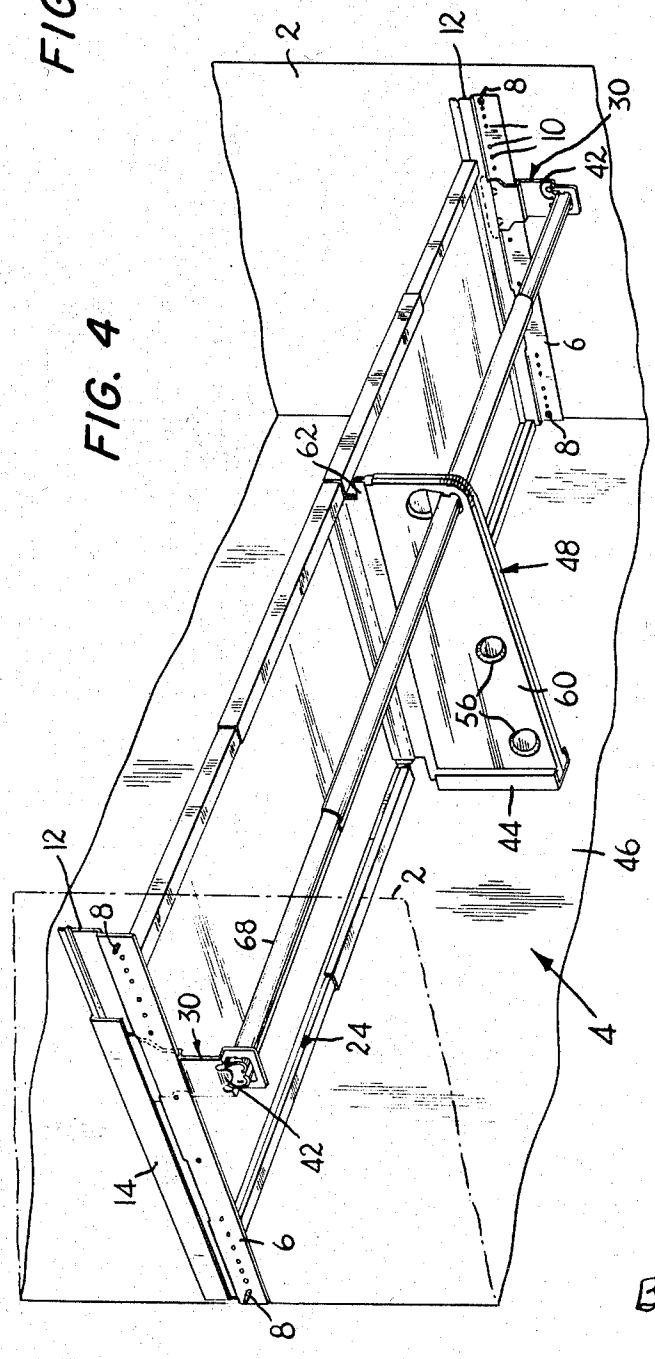


FIG. 4

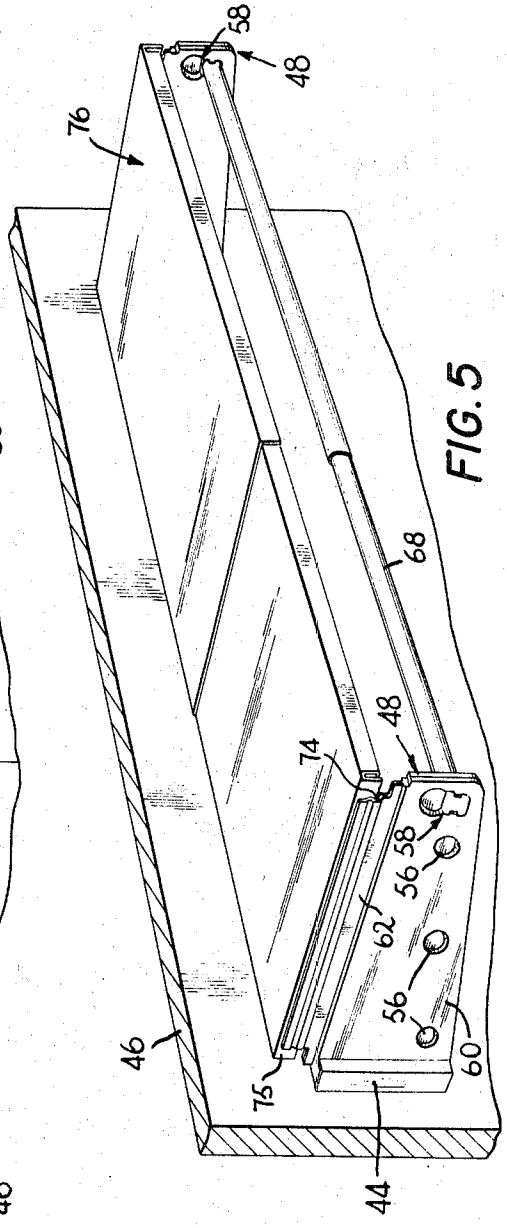


FIG. 5

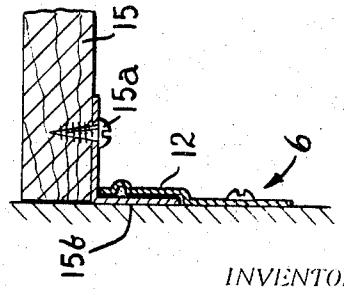


FIG. 3B

INVENTORS
WALTER J. MacFARLANE,
JOFFRE E. R. HENTZI &
BY EDMUND F. REISS

Brumbaugh, Free, Graves & Donohue
their ATTORNEYS

FIG. 6

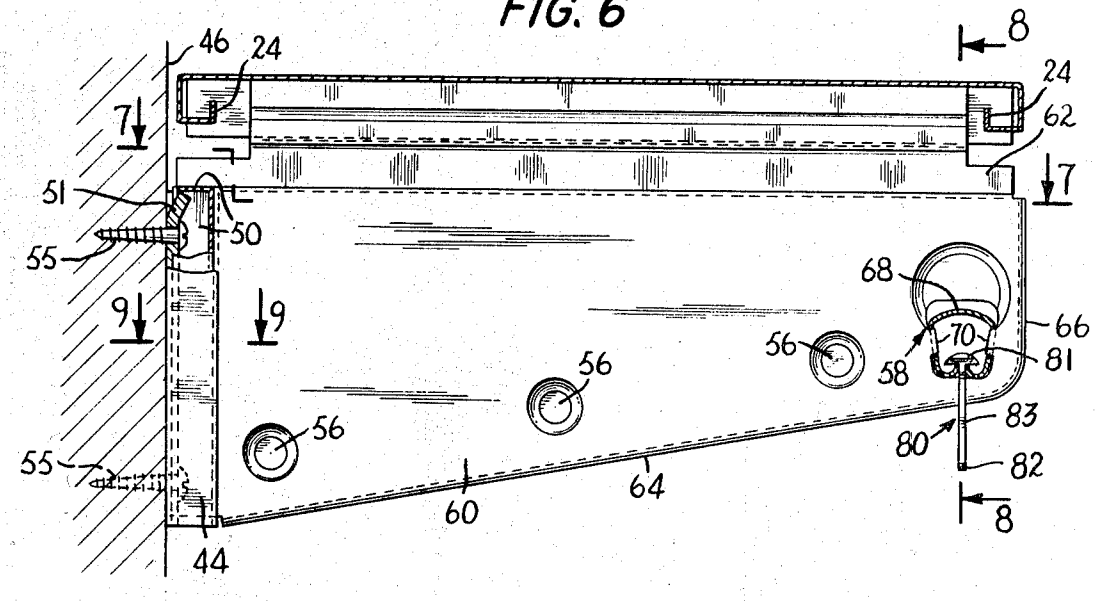


FIG. 7

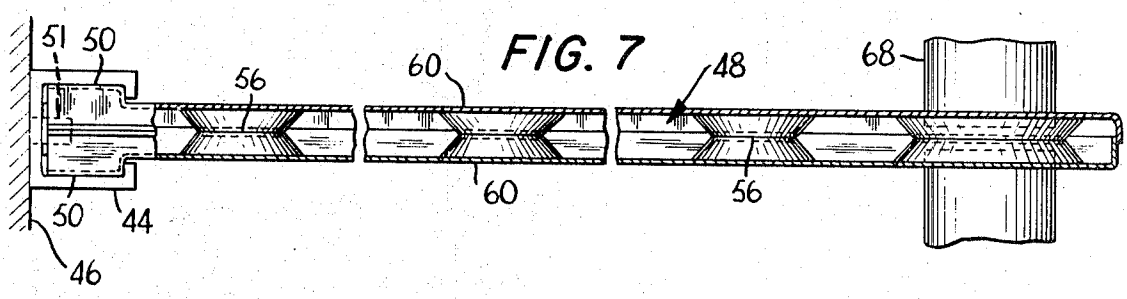


FIG. 8

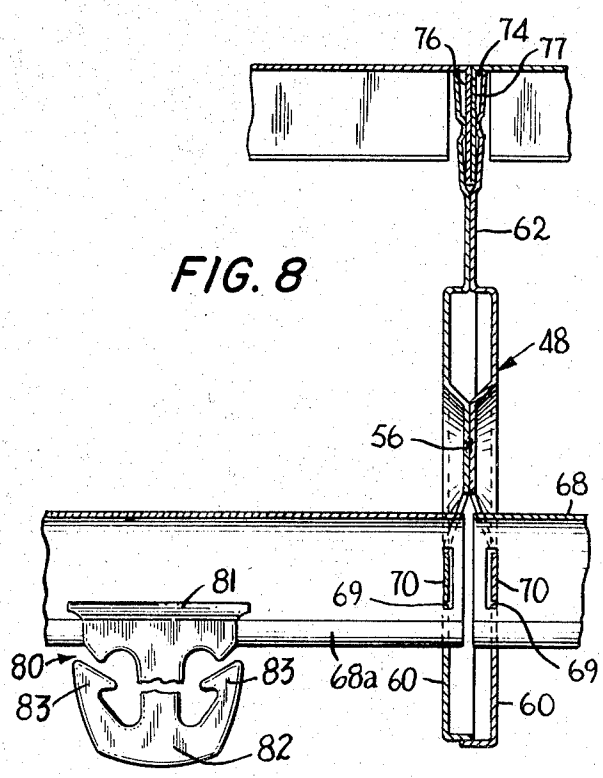
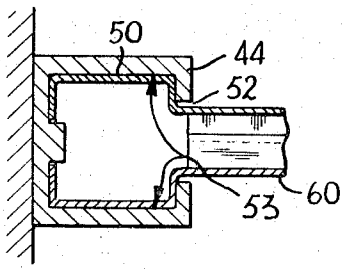


FIG. 9



INVENTORS
WALTER J. MacFARLANE,
JOFFRE E. R. HENTZI &
BY EDMUND F. REISS
Brumbaugh, Free, Graves & Donohue
their ATTORNEYS

COMBINED SHELVING AND CLOTHES BAR APPARATUS

The present invention relates to a combined shelf and clothes bar structure for installation in various sized closets.

In private homes both new and used, and in hotels, there has been a requirement for a structure that can be readily installed in closets without special tools to provide strong and durable shelving and clothes bars. Various prior arrangements provided shelving difficult to install and adjust and without clothes bars strong enough to support heavy clothes bags and the like.

The present invention overcomes the deficiencies of the prior structures and provides a shelving and clothes bar structure simply secured inside a wide variety of closets with the strength to support substantial loads on both the shelving and clothes bar. More particularly, in one embodiment of the invention, the structure includes a pair of pin strips adapted to be mounted on the opposite walls of a closet for supporting a shelf and a clothes bar adapted to carry slidable glides. The pin strips are each provided with at least one slot located along the approximate longitudinal center line thereof to receive a generally T-shaped support plate. Preferably at least one tab is formed on the plate to engage an edge of the slot and prevent upward movement of the plate. An opening formed in the lower end of the plate receives the end of the clothes bar, the plate having oppositely directed tabs which can snap into keying slots located on the sides and near each end of the bar. A resilient tongue may extend into each of the plate openings to engage the ends of the bar resiliently and thereby form a secure and rattleproof assembly.

For longer shelving requiring additional strength, wall bracket supports are mounted on the back wall of a closet intermediate the pin strips, these supports having a groove extending lengthwise thereof for slidably receiving a bracket which is constructed and arranged to support the shelving and the clothes bar. Wall brackets can also be used to support shelving and a clothes bar entirely from the back wall of a closet or can be used with the pin strips to support shelving and a clothes bar on an end wall and a back wall, when shorter shelves than the width of a closet are desired.

More particularly, typical wall brackets for supporting shelving and a clothes bar may include at their upper edges spaced apart generally parallel flanges to provide a groove for receiving the shelf end flanges, and may also be provided with a suitably positioned clothes bar socket.

These and further advantages of the invention will be more readily understood when the following description is taken in conjunction with the drawings, in which:

FIG. 1 is a perspective view of a shelving and clothes bar structure embodying the present invention and fastened to opposite walls of a clothes closet;

FIG. 2 is a sectional view taken along line 2–2 of FIG. 1;

FIG. 3 is a sectional view taken along line 3–3 of FIG. 2;

FIG. 3A is a sectional view of a modified form of the embodiment of the present invention shown in FIG. 3;

FIG. 3B is a sectional view of another modified form of the embodiment of the present invention shown in FIG. 3;

FIG. 4 is a perspective view of a modified form of the present invention illustrating a center support for the shelving and clothes bar;

FIG. 5 is a perspective view of another embodiment of the present invention installed on the back wall of a clothes closet;

FIG. 6 is a detailed sectional view of the embodiment shown in FIG. 5;

FIG. 7 is a sectional view taken along line 7–7 of FIG. 6;

FIG. 8 is a sectional view taken along line 8–8 of FIG. 6; and

FIG. 9 is a sectional view taken along line 9–9 of FIG. 6.

Referring to an exemplary embodiment of the invention in detail with particular reference to FIGS. 1 through 3, when sidewalls 2 of a clothes closet 4 are available for mounting purposes, pin strips 6 are provided for horizontal mounting on both walls of the closet by inserting screws or nails 8 through any holes 10 in the pin strips which line up with wall studs (not shown). An upper support plate 12 of each pin strip 6 is offset from the walls 2 to receive and support an end flange 14 of a metal telescopic or expandable shelf unit 16. The front and rear edges of the shelf unit 16 are provided with generally U-shaped flanges 18 including a downwardly bent vertical front portion 20, a horizontal bottom portion 22 and an upwardly extending inner portion 24. One shelf element 16*a* is slidable or telescopically received in the other element 16*b* to enable the shelf to be extended or contracted to fit the closet space available.

To securely fasten a clothes bar 26 under the shelf 16, a head section 28 of a downwardly depending T-shaped hanger plate 30 is inserted, by holding it at an angle, up through a slot 32 suitably located on the pin strip 6 at the junction of its upper and lower sections to position the clothes bar 26 properly. The T-shaped plate 30 includes a lower section 31 offset from a middle section 33 which is, in turn, offset from the head section 28, all to the end that the hangar plate 30 fits the pin strip 6 and rests against the closet sidewall and the shelving 16, as shown in FIG. 3. Tabs 33*a* are formed on the middle section 33 in any suitable manner. Upper edges 33*b* of the tabs engage an edge of the slot 32 when the plate 30 is rotated into position to prevent upward movement of the plate through the slot.

To receive the clothes bar 26, formed by telescoping sections 26*a* and 26*b*, the plate 30 includes a socket 34 in its lower section. The clothes bar 26 has a generally inverted U-shaped cross section with downwardly extending sides 36 provided with upwardly and inwardly bent lower free edges. Each of the sides 36 has a notch 40 located near each end of the bar 26. To mount the bar, the sides 36 are squeezed inwardly and then the end inserted into the socket 34. When the lower edges 36 are released, a pair of projections or tabs 38 on the hanger plate 30, that extend into the socket 34, lock the bar against endwise movement by entering the notches 40. A resilient inclined tongue 42 may also be located in the socket 34 (FIGS. 2 and 3) yieldably to engage the end of the bar 26 to lock it securely in the socket and prevent rattling.

In the modification shown in FIG. 3A, a pin strip 6*a* is similar to the pin strip 6 shown in FIGS. 1—3, but instead of supporting an expandable metal wardrobe shelf, it can, with only slight alteration, support wooden shelving. To this end, an upper support plate 12*a* includes a horizontal extension 13 that forms a supporting ledge for a wooden shelf 15. Screws 17 secure the shelf to the ledge.

In the modification shown in FIG. 3B, the wooden shelf is affixed by screws 15*a* to one side of an adapter angle 15*b*. With this arrangement, the wooden shelf 15 can be mounted on the pin strip 6 by positioning the angle 15*b* on the pin strip 6 with its other side extending downwardly behind its upper support plate 12.

From the above description, it is apparent that the shelving and clothes bar can be readily installed without the use of special tools in a secure and rattleproof manner.

Where the shelves must be erected against the face of a wall, wall bracket anchors 44 and secured to the back wall 46 of a closet, cupboard or the like as shown in FIGS. 5—9. The extrusions 44 are C-shaped in cross section, having a narrow front opening slot 52 extending lengthwise thereof (FIG. 9). The groove 53 rearwardly of the slot 52 receives a lobe or rib 50 (FIG. 7) at the rear end of a wall bracket assembly 48 and the slot 52 slidably receives the thinner portions of the brackets adjacent to the lobe. A tab member 51 at the upper end of the anchor 44 engages the lower side of the upper closure wall of the terminal end of the lobe 50 to prevent bracket 48 from sliding out of the extrusion 44 and serves to take vertical loading of the bracket 48. The extrusions 44 are mounted on the wall by screws 55, the screw holes being inboard of the slotted groove 53.

The wall bracket 48 is of two-plate construction welded together at points 56. Each plate 60 of the bracket 48 has an upper edge 62, a lower inclined reinforced edge 64, a generally vertical front edge 66 and a socket 58 for receiving

an inverted U-shaped clothes bar **68**. A pair of tabs **70**, which are formed in the plate **60** and extend into slots **69**, are located near each end of the rod **68**. The upper edges **62** of the plates **60** are offset laterally from the body of the plates to form a groove **74** to receive a shelf flange **75** on one end of a telescoping shelf unit **76**.

The clothes bar **68** includes two U-shaped convexly arcuate lip portions **68***a* defining a channel therebetween adapted to be spring open to receive glides **80** (FIGS. **6** and **8**). Each of the glides **80**, preferably formed from a low-friction synthetic plastic material such as nylon or high-density polyethylene, includes a head portion **81** from which depends a hanger portion **82** in the form of two oppositely facing hooks **83** to support clothes hangers and the like.

For shelving having a longitudinal span of unusual length, midsupport is often required for both the shelving and the clothes bar. FIG. **4** illustrates another inventive embodiment employing pin strips **6** and T-plates **30** on the opposite sidewalls **2** of the closet **4**, and an extruded wall bracket anchor **44** and support assembly **48** on the back wall **46** of the closet **4**. Shelf flanges **76** and **77** are received by the groove **74** and the shelving is thus afforded midsupport (FIGS. **4** and **8**). A pair of two-section telescoping clothes bars **68** also fit at their inner ends into the sockets **58** to provide a longer span for the clothes bar (FIG. **8**).

It will be apparent to those skilled in the art that many modifications may be made to the present invention without departing from the spirit and scope thereof. Therefore the invention is not to be limited except as defined in the appended claims.

We claim:

1. A combination shelf and clothes bar apparatus comprising:

a. shelving;

b. a clothes bar having first keying means at its ends;

c. a plurality of mounting devices each adapted to be fastened to a vertical supporting surface;

d. supporting members carried by the mounting devices, said supporting members formed to support the ends of the shelving; and

e. attaching means carried by the supporting members, each of said attaching means containing a socket, second keying means in the socket, and the ends of the clothes bar extending into the sockets with the first and second keying means cooperating to lock the bar in position beneath the shelving, wherein at least one of said mounting devices comprises a lower section of a pin strip containing a series of holes through which fasteners are adapted to be inserted into the vertical supporting surface, and the supporting member comprises an upper section of the pin strip that is offset inwardly from the lower section to receive an end of said shelving, a slot located in the strip at the juncture of the lower and upper sections, and said attaching means comprises a downwardly depending plate inserted through said slot, said plate containing said socket in its lower portion.

2. Apparatus as defined in claim **1**, wherein the plate is T-shaped with its arms supported by the pin strip.

3. Apparatus as defined in claim **2**, in which at least one tab on the plate engages an edge of the slot to prevent upward movement of the plate through the slot.

4. A combination shelf and clothes bar apparatus comprising:

a. shelving;

b. a clothes bar having first keying means at its ends;

c. a plurality of mounting devices each adapted to be fastened to a vertical supporting surface;

d. supporting members carried by the mounting devices, said supporting members formed to support the ends of the shelving; and

e. attaching means carried by the supporting members, each of said attaching means containing a socket, second keying means in the socket, and the ends of the clothes bar extending into the sockets with the first and second keying means cooperating to lock the bar in position beneath the shelving, wherein at least one of said mounting devices comprises a wall bracket anchor having a channel extending vertically thereof, and the supporting member carried by the wall bracket anchor comprises a bracket having an upper section supporting an end of said shelving and a portion located at the rear of said bracket that fits said channel in the wall bracket anchor, said socket formed in the bracket and having the second keying means extending into said socket, the ends of the clothes bar extending into the sockets with the first and second keying means cooperating to lock the bar in position beneath the shelving.

5. Apparatus as defined in claim **1**, in which a resilient tongue member is located at the rear of said socket to engage the end of said clothes bar.

6. A combination shelf and clothes bar apparatus comprising:

a. telescoping shelving;

b. an extensible telescoping clothes bar having an inverted generally U-shaped cross section with keying slots at its ends;

c. a pair of pin strips each having a lower section containing a series of holes through which fasteners are adapted to be inserted into a vertical supporting surface, an upper section of the strip offset from the lower section to receive an end of said shelving, and a slot located at the juncture of the lower and upper sections;

d. a downwardly depending T-shaped plate inserted through the slot in each pin strip, said T-shaped plate containing a socket in its lower portion, a pair of first tabs extending into the socket, and the ends of the clothes bar being inserted into the sockets by squeezing its sides together which when released cause the tabs to enter the slots in the ends of the bar to lock it in position beneath the shelving.

7. Apparatus as defined in claim **6** in which a resilient tongue member is located at the rear of said socket to engage the end of the clothes bar.

8. Apparatus as defined in claim **6**, wherein at least one second tab on the plate engages an edge of the slot to prevent upward movement of the plate through the slot.

9. Apparatus as defined in claim **6** in which the U-shaped clothes bar includes two substantially U-shaped convexly arcuate lip portions defining a channel therebetween, the edges of the lip portions lying in a common horizontal plane to support hanger glides slidably carried in the channel.

10. Apparatus as defined in claim **6** in which a wall bracket anchor having a channel extending vertically thereof is fastened to a vertical supporting surface, a bracket having a rear portion that fits the anchor channel to secure the bracket intermediate the pin strips, an upper section of the bracket supporting the shelving intermediate its ends, a socket formed in the bracket, a pair of tabs extending into the socket, keying slots in the clothes bar intermediate its ends, the clothes bar being received and locked in the bracket socket by the tabs and keying slots to support the clothes bar at a point intermediate its ends.

11. In expandable shelving apparatus, telescoping shelving, a pair of pin strips each having a lower section containing a series of holes through which fasteners are adapted to be inserted into a vertical supporting surface, an upper section of the strip offset from the lower section to receive an end of said shelving, and a slot located at the juncture of the lower and upper sections adapted to receive selectively a support device.

12. Apparatus as defined claim **11**, in which a support bracket adapted to be fastened to a vertical supporting surface is located intermediate said pin strips and engaging said shelving to provide additional support for said shelving.