

June 26, 1962

C. E. GINGHER ETAL

3,040,905

DISPLAY UNIT

Filed July 29, 1958

3 Sheets-Sheet 1

Fig.1

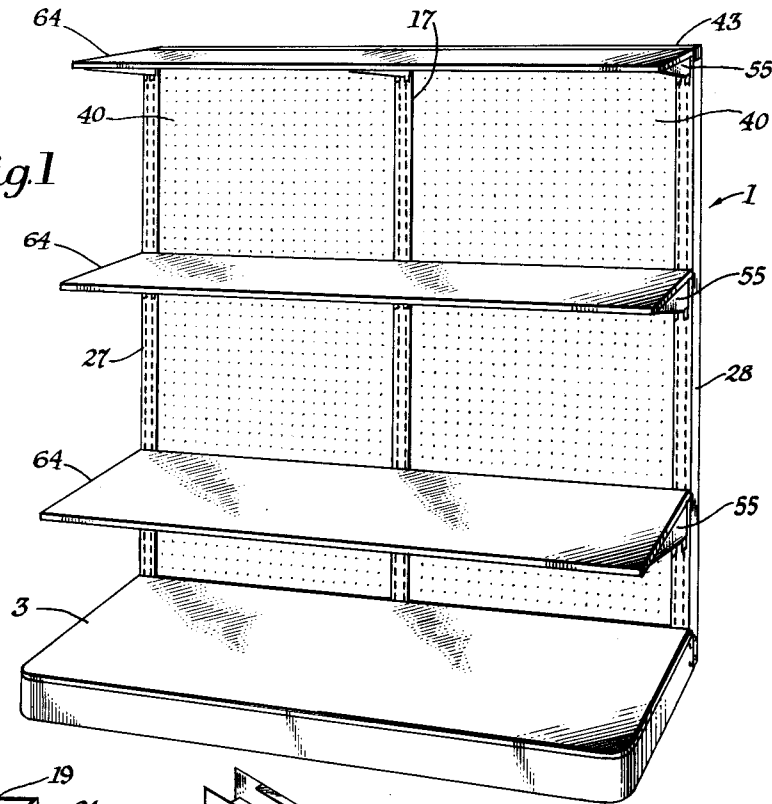


Fig.4

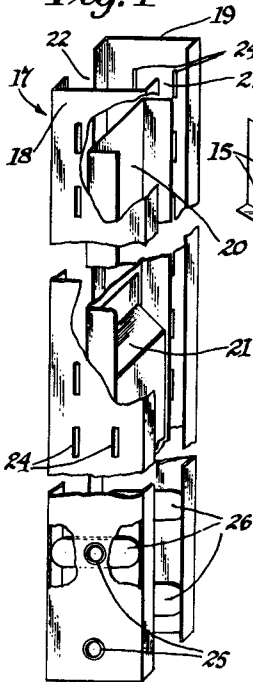


Fig.2

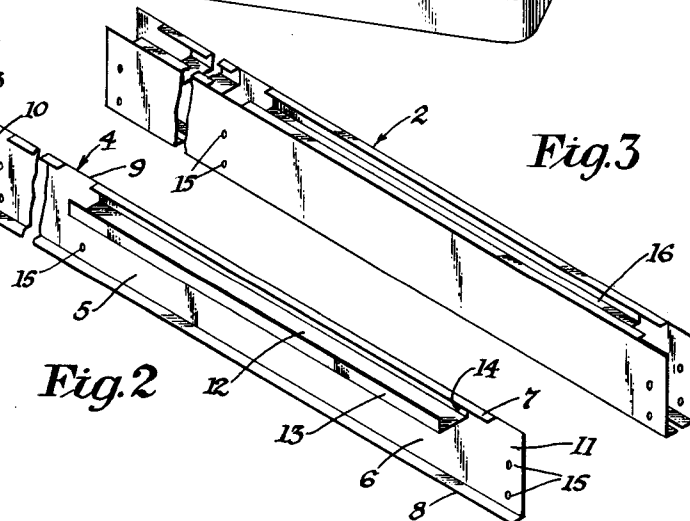


Fig.3

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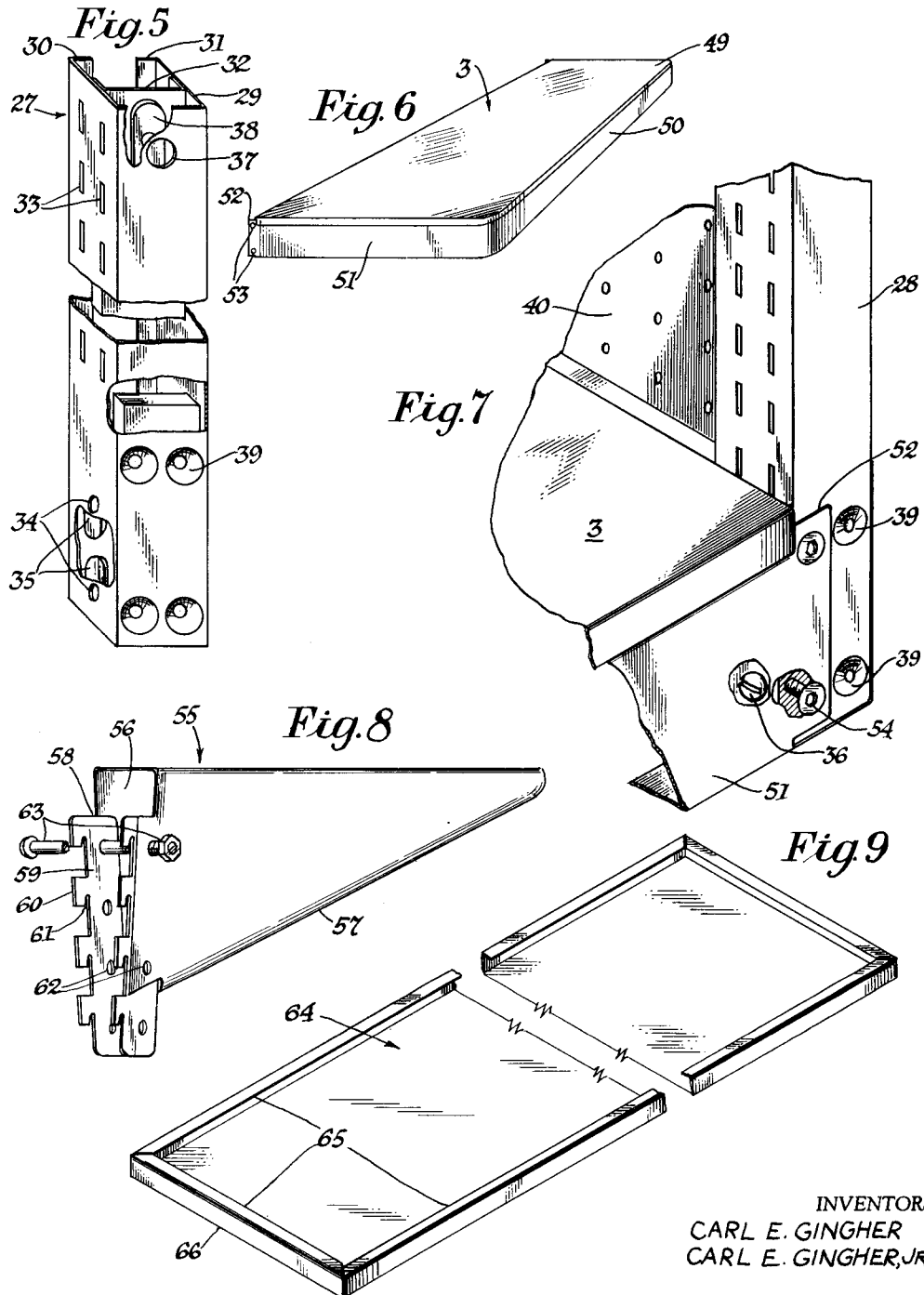
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3 Sheets-Sheet 2



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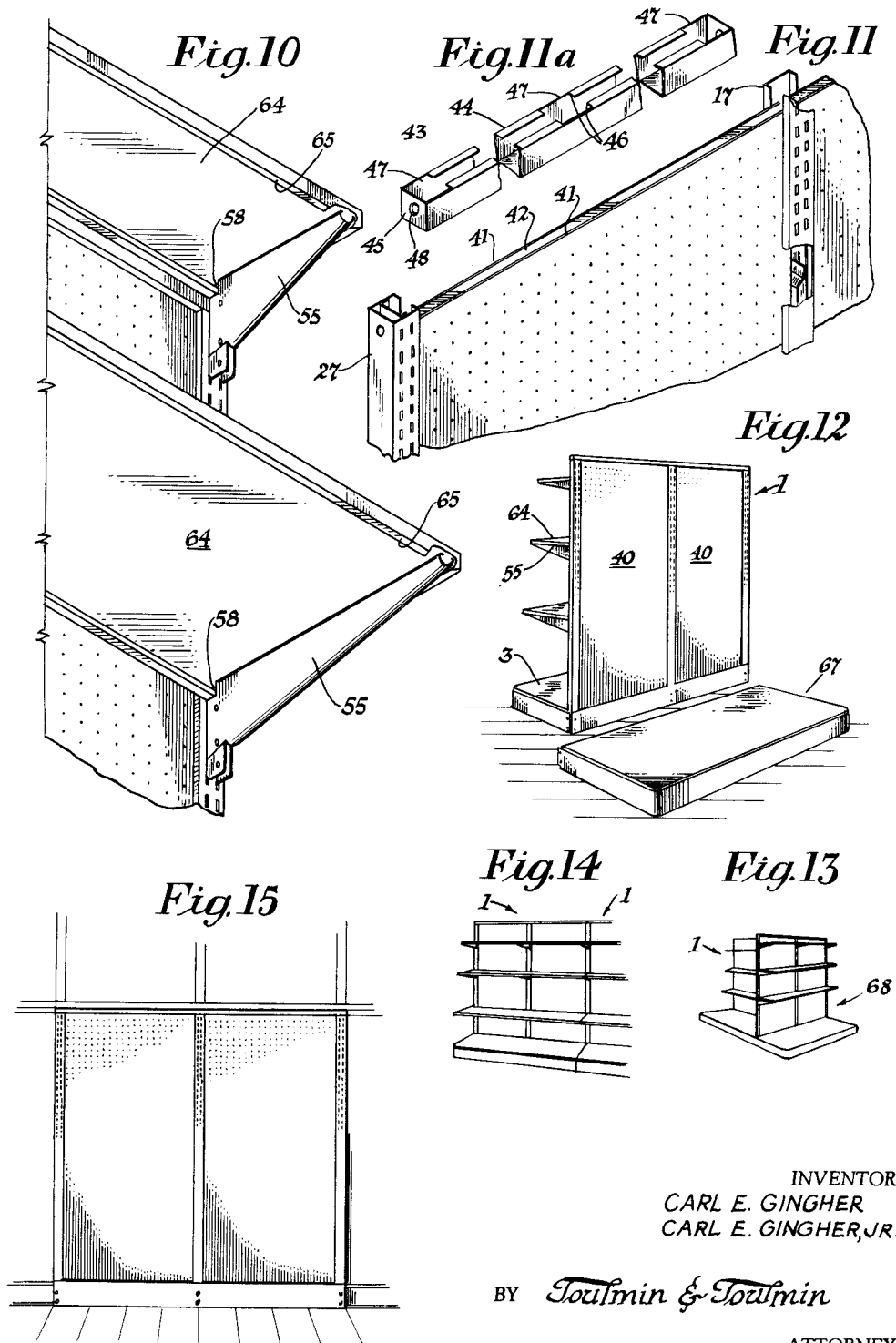
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3 Sheets-Sheet 3



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3,040,905

DISPLAY UNIT

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5 Claims. (Cl. 211-148)

The present invention relates to a knock-down display unit, more particularly, to a display unit which may be readily assembled and disassembled and may be combined with other components into various arrangements as may be desired.

It is the principal object of this invention to provide a display unit whose components may be arranged in a number of arrangements so as to provide an unlimited variety of display opportunities, particularly when featuring merchandise for impulse buying.

It is another object of this invention to provide a flexible display unit which has considerable rigidity and will easily support the heaviest types of merchandise without sagging or breaking.

It is a further object of this invention to provide a display unit comprising a minimum of components which are so interfitted with each other that they may be readily assembled to form a display unit by relatively unskilled personnel using simple tools and consuming a minimum amount of time.

It is still another object of this invention to provide a shelf-and-bracket arrangement wherein the shelves are supported on the brackets but are prevented from lateral movement on the brackets by the relationship of the shelf and the bracket.

It is still a further object of this invention to provide a novel detachable bracket which can be quickly secured into spaced slots in a vertical member and can be locked therein.

It is still an additional object of this invention to provide a display unit from which the back panels can be readily removed and replaced by various forms of back panels depending upon the merchandise which is being displayed.

It is yet another object of this invention to provide a basic display unit which can be combined with additional components so as to form a variety of display arrangements both upon the floor and against the wall.

Additional objects and advantages of this invention will be apparent from the specification and the drawings, wherein:

FIGURE 1 is an over-all perspective view of the display unit of this invention;

FIGURE 2 is a perspective view of one component which is combined with a similarly shaped component to form an elongated base member;

FIGURE 3 is an over-all perspective view showing the base member assembled from the components illustrated in FIGURE 2;

FIGURE 4 is a perspective view of the center vertical member of the display unit showing the upper end thereof;

FIGURE 5 is a perspective view of one of the end vertical members of the display unit showing the upper end thereof;

FIGURE 6 is an over-all perspective view of the base of the display unit;

FIGURE 7 is an enlarged view of the base connection to an end vertical member as shown in FIGURE 1;

FIGURE 8 is a perspective view of one of the brackets of the display unit;

FIGURE 9 is a perspective view of the shelf of the display unit looking at the under side thereof;

FIGURE 10 is a perspective view showing the bracket-

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and-shelf arrangement employed in the display unit and looking at the under side of the shelves;

FIGURE 11 is a perspective view showing the upper end of the display unit with the shelves removed to illustrate the manner in which the panels are retained in the vertical members;

FIGURE 11a is an over-all perspective view of the cap member showing the underside thereof;

FIGURES 12 through 14 are perspective views of various arrangements employing the basic display unit of this invention; and

FIGURE 15 shows an arrangement of the display unit with the base removed and secured to a wall.

The display unit of this invention essentially comprises a platform-like base having a plurality of vertical members upstanding from the rear edge of said base with a number of removable panels slidably received between said vertical members. A cap member is fitted over the upper ends of said vertical members to retain the panels in position. Each of the vertical members has a plurality of pairs of aligned slots on the face thereof overlooking the base, to receive projections from brackets which are detachably secured on the vertical members. A shelf is then mounted on the brackets with there being a particular relationship between the brackets and the shelf to prevent lateral movement of the shelf upon its supporting brackets.

A specific embodiment of the display unit is illustrated in the drawings and is subsequently described in detail.

Proceeding next to the drawings, more particularly to FIGURE 1, wherein like reference symbols indicate the same parts throughout the various views, 1 indicates the display unit of this invention. The display unit 1 is supported by an elongated base member 2 and a base 3. The base member 2 is illustrated in greater detail in FIGURES 2 and 3 and is formed in two pieces, one of which is indicated at 4 and is illustrated in FIGURE 2. The base piece 4 comprises a channel 5 having a web 6 and legs 7 and 8, which are of unequal length. A portion of the leg 7 is removed at 9 in approximately the center of the base piece 4, to accommodate a center vertical member in a manner to be presently described. The web 6 extends beyond the ends of the legs at each end of the base piece as indicated at 10 and 11.

A second channel 12, smaller in size than the channel 5, has legs 13 and 14 with leg 14 being spot-welded to the web 6 from the channel 5 so that the upper edge of the leg 14 is closely adjacent to or may contact the first channel leg 7, which is shorter than the channel leg 8.

There are pairs of holes 15 in each of the web extensions 10 and 11, and in the web 6, aligned with the removed portion 9.

To form the base member 2, a pair of base pieces 4 are assembled in opposing relationship as shown in FIGURE 3, so that a groove 16 is formed in the upper edge of the base member. The longer legs 8 of the base pieces 4 form the bottom edge of the base piece.

A center vertical member 17 is positioned in the removed portion 9 of the base member 2. The vertical member 17 is square in cross-section and comprises channels 18 and 19 joined together by a channel 20 spot-welded to the webs of the channels 18 and 19. There are a plurality of spaced cross pieces 21 between the legs of the channel 20. This arrangement forms vertically extending grooves 22 and 23 on both sides of the center vertical member 17.

There is a series of pairs of slots 24 in the web of each channel 18 and 19. There is a pair of holes 25 adjacent the lower end of each of the channels 18 and 19 for registration with the holes in the center of the base member 2. There is a backing plate 26 behind each of the holes 25, and each of the backing plates is tapped in alignment with

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the holes 25. Machine screws are used to secure the center vertical member to the base member 2.

End vertical members 27 and 28 mounted at each end of the base member 2 are similar, and each comprises a channel 29 with the ends of the legs being turned in to form flanges 30 and 31. A second channel 32 is positioned in each channel 29 and facing outwardly toward the flanges 30 and 31. There is a plurality of pairs of slots 33 in each of the legs of the channel 29. There are a pair of holes 34 in the bottom of each leg of the vertical member channel 29 in registration with the holes 15 in the web extensions of the base member 2. Each of these holes has a backing plate 35 and is similarly tapped in alignment with said holes. Screws 36 are used to secure the vertical members to the base member.

There is a hole 37 in the top of the web of each end member, with a backing plate 38 which is tapped and mounted on the inner channel 32.

There are four countersunk base holes 39 arranged in pairs in the lower end of the web of each end vertical member. Each of these holes is similarly reinforced with a backing plate.

A back panel 40 is slidably received between each of the end vertical members and one side of the center vertical member. This back panel comprises double pegboards 41 attached by spacers 42. The pegboards, however, may comprise any suitable material and may be translucent so as to permit illumination of the merchandise on the shelves of the display unit from a source of illumination positioned behind the panel of the display unit.

A cap member 43 is secured to the upper ends of each of the end vertical members to maintain the vertical members in spaced relation and to secure the back panels in position. The cap member comprises a channel 44 having closed ends 45 and the legs thereof being turned in to form flanges 46. Portions of the flanges are cut away at 47 at the ends and in the center of the cap member to accommodate the end vertical members and the center vertical member respectively. There is a hole 48 in the edge of the cap member closed ends to accommodate a flat-head screw which is received in the cap hole in the upper end of each of the end vertical members.

The base 3 is a platform-like in form and has a height which is substantially equal to the height of the base member 2 and has a length which is equal to the length of the said base member. The length of the base 3 is substantially twice its width. The base is formed of sheet steel and comprises a top 49, a front edge 50, and side edges 51 portions of which extend rearwardly beyond the rear edge of the top as indicated at 52. The length of this extension is substantially one-half the width of the square vertical members. There are a pair of holes 53 in each of said extensions, and these holes are countersunk so as to correspond to the base holes in the vertical members. The countersunk portion of the holes 53 will be tightly received in the countersunk portion of the holes 39, and the result will be a secure connection between the base and the vertical members. The flat-head screws 54, of the Allen-head type, complete the connection between the base and vertical members.

Proceeding next to FIGURE 8, there is illustrated a bracket 55 which is detachably secured in a vertical member and used to support a shelf in a manner to be presently described. The bracket comprises cold rolled sheet steel which has an inherent resilience and is bent in substantially a U-shaped cross-section as indicated at 56, and is in the shape of a right triangle. The bend which forms the lower end of the U-shaped cross-section comprises the hypotenuse of the triangle indicated at 57. There is a notch 58 at the right angle of the triangle. It is pointed out that the cross-section of the bracket actually tapers outwardly from the bend so that the legs of the U-shaped cross-section are not parallel to each other. A backing piece 59 is spot-welded to each of the faces of the bracket

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adjacent the short leg thereof. There are a plurality of pairs of projections 60 extending outwardly from each of the backing pieces. Each projection has a notch 61 on the under side thereof adjacent the edge of the bracket and is of a width sufficient to accommodate the steel from which the vertical members are formed. There are a plurality of holes 62 adjacent the shorter leg of the bracket. A nut-and-bolt assembly indicated at 63 may be passed through a pair of aligned holes and tightened to urge the faces of the bracket together after the bracket has been mounted on the vertical member so as to lock the projections of the bracket within the slots of the vertical member.

The bracket 55 is not intended for use when it is desired to have the top shelf of the display unit flush with the cap member. When this arrangement is desired, a bracket is used wherein the projections are spaced below the bottom of the notch 58 instead of extending out from the bottom of the notch as shown in the bracket 55. When the projections of the top shelf bracket are inserted in the uppermost holes not covered by the cap member, the top edge of the bracket will be substantially flush with the top of the cap member.

FIGURE 9 illustrates the shelf 64 which is positioned upon the brackets 55. The shelf is formed of sheet steel and has rolled-under lips 65 on all sides thereof. The width of the shelf, as indicated at 66, is substantially equal to the length of the bracket upon which it is to be supported. Consequently, as may be seen in FIGURE 10, the outermost lip of the shelf will fit over the end of the bracket and the opposed lip will be received in the notch 58 of the bracket. The lips at the ends of the shelf will rest against the outer face of the bracket secured to the end vertical members. This arrangement prevents lateral movement of the shelf and also eliminates projection of the bracket beyond the edge of the shelf.

The shelf is mounted on the bracket by first positioning the outer edge of the shelf over the ends of the brackets and then positioning the rearmost lip into the bracket notches.

The above-described display unit constitutes the basic arrangement of this invention and can be used for various display purposes. However, this display unit is capable of numerous other arrangements, some of which will be described.

FIGURE 12 illustrates a double arrangement which can be used for an island display. In this arrangement the display unit 1 has a second base 67 attached to the rear thereof, which base 67 is the same as the base 3. Additional shelves can be mounted on the rear of the display unit 1 so as to be able to display merchandise on both sides of the display unit.

FIGURE 13 represents an island arrangement wherein a display unit arrangement as illustrated in FIGURE 12 has a third display unit positioned against the end thereof. Since the length of the base of the display unit is twice its width, it can be seen that the third display unit 68 fits evenly against the ends of the bases of the island display unit so that none of the bases present dangerous projections.

In FIGURE 14 there is illustrated a side-by-side arrangement of display units wherein a plurality of the display units 1 are assembled in side-by-side relationship with each other.

In FIGURE 15 there is illustrated a wall display unit which comprises the display unit 1 without the base. The remaining structure comprising the base member, vertical members, back panels, and cap member can be readily attached to the wall so as to form a wall display structure.

Thus it can be seen that the display unit described above may be readily assembled and disassembled and has the components thereof carefully engineered so as to provide many different arrangements depending upon

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the display desired. The display unit has a rigidity considerably greater than that present in known display units and has a considerable strength so as to enable the unit to support the heaviest forms of merchandise. At the same time, the unit has a large degree of flexibility so that various display arrangements may be made.

Instead of providing shelves which are equal in length to the length of the base, the shelves may be much shorter so that they cover the distance between two vertical members. In such an arrangement, the shelves on opposite sides of the center vertical member may be arranged at different heights so as to present a staggered relationship.

In addition, a cabinet of storage drawers which is of a size to fit exactly upon the base of the display unit may be mounted upon the base so as to store items which are being displayed. With this arrangement, the unit can be used for both display and storage purposes.

It will be understood that this invention is susceptible to modification in order to adapt it to different usages and conditions, and, accordingly, it is desired to comprehend such modifications within this invention as may fall within the scope of the appended claims.

What is claimed is:

1. In a knock-down display unit, an elongated base member with the ends thereof comprising spaced opposed faces, a vertical member secured at each end of the said base member between said spaced faces, said spaced faces terminating at the outer surfaces of said vertical members, a center vertical member upstanding from the center of said base member, a cap member channel secured to the upper ends of said vertical members, a platform-like base having a height substantially equal to that of said base member and having a length equal to that of said base member, said base member being substantially longer than it is wide, the faces of said base member forming the shorter edges thereof extending beyond the rear edge of said base member a distance equal to substantially one-half the width of said end vertical members, means securing said extended faces to the outer surfaces of said vertical members, brackets detachably secured to the faces of said vertical members above said base member, shelves immovably mounted on said brackets, and back panel members slidably received between said vertical members.

2. In a knock-down display unit, an elongated base member with the ends thereof comprising spaced opposed faces, a vertical member secured to each end of said base member between said spaced faces, said spaced faces terminating at the outer surfaces of said vertical members, a center vertical member upstanding from the center of said base member, there being opposed vertical grooves in said vertical members, there being countersunk holes on the outer faces of each of said end vertical members adjacent the lower ends thereof, a cap member channel secured to the upper ends of said vertical members, a platform-like base having a height substantially equal to that of said base member and having a length equal to that of said base member, said base member being substantially longer than it is wide, the faces of said base member forming the shorter edges thereof extending beyond the rear edge of said base member a distance equal to one-half the width of said end vertical members, there being countersunk holes on the extended faces of said base member which countersunk holes are arranged for registration with the countersunk holes in said end vertical members, flat-head screws passing through the holes in said extended faces and said end vertical members to secure said base member to said vertical members, back panels received within the opposed vertical grooves of said vertical members, a plurality of brackets detachably secured to the faces of said vertical members above said base member, and a plurality of shelves immovably mounted on said brackets.

3. In a knock-down display unit, an elongated base

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member with the ends thereof comprising spaced opposing faces, a vertical member secured on each end of said base member between said spaced faces, said spaced faces terminating at the outer surfaces of said vertical members, each of said vertical members having four holes on its outer face adjacent the lower end thereof, a vertical member upstanding from the center of said base member, a cap member secured to the upper ends of said vertical members, a platform-like base having a height substantially equal to that of said base member and having a length equal to that of said base member, said base member being substantially longer than it is wide, the faces of said base member forming the shorter edges thereof extending beyond the rear edge of said base member a distance equal to substantially one-half the width of said end vertical members, means securing said extended base faces to the two adjacent holes on said vertical members, a second base member having similar extending faces secured to the other two holes on each of said vertical members on the other side of said base member so as to form a double display unit, back panel members slidably received between said vertical members, a plurality of brackets detachably secured to the faces of said vertical members, and shelves positioned on said brackets and secured thereon against lateral movement.

4. In a knock-down display unit, a pair of first channel members each having a second channel with a leg thereof attached to the inner surface of the web of each of said first channels, the said second channels being less than one-half the length of said first channel and being secured on one side to the transverse center line thereof so that assembly of said first channel members with the legs extending toward each other will form an elongated base member having a groove in the top edge formed by said second channels, a vertical post upstanding from each end of said assembled first channel members and from the center thereof, there being opposed vertically extending grooves in said vertical members, a cap member secured to the upper ends of each of said vertical members to maintain said vertical members in spaced relation, a base secured to the outer surfaces of said end vertical members, a plurality of brackets detachably secured to the faces of said vertical members, shelves positioned on said brackets and secured thereon against lateral movement, and a back panel member on each side of said center vertical member received in the opposed vertical grooves on said vertical members and the groove at the top edge of said assembled first channel members.

5. In a knock-down display unit, a platform-like base being longer than it is wide, a plurality of spaced vertical members upstanding from one of the longer sides of the base, there being a vertical member at each end of one of said long sides and at the center thereof, there being a series of pairs of aligned slots in the faces of said vertical members overlooking said base, there being opposed vertical grooves in said vertical members, a cap member secured to the upper ends of said vertical members to maintain said vertical members in spaced relation, a back panel member on each side of said center vertical member received in the opposed vertical grooves of said vertical members, a plurality of brackets having pairs of projections on a side thereof for insertion into said vertical member slots to detachably secure said brackets to said vertical members, the brackets for the top shelf having said projections lower from the top edge of said brackets so that when said top shelf bracket projections are inserted in the uppermost slots not covered by said cap member the top surface of said top shelf brackets are substantially flush with the top of said cap member, and shelves on said brackets secured against lateral movement thereon with the shelf on the uppermost brackets being substantially flush with the top of said cap member.

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