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Corman

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[54] **LONGITUDINAL SUPPORT POST**

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[52] **U.S. Cl.** **52/738,** 52/282, 248/243, 52/238

[51] **Int. Cl.** **E04c 3/32**

[58] **Field of Search** 52/720, 721, 282, 52/497; 248/243

[56] **References Cited**

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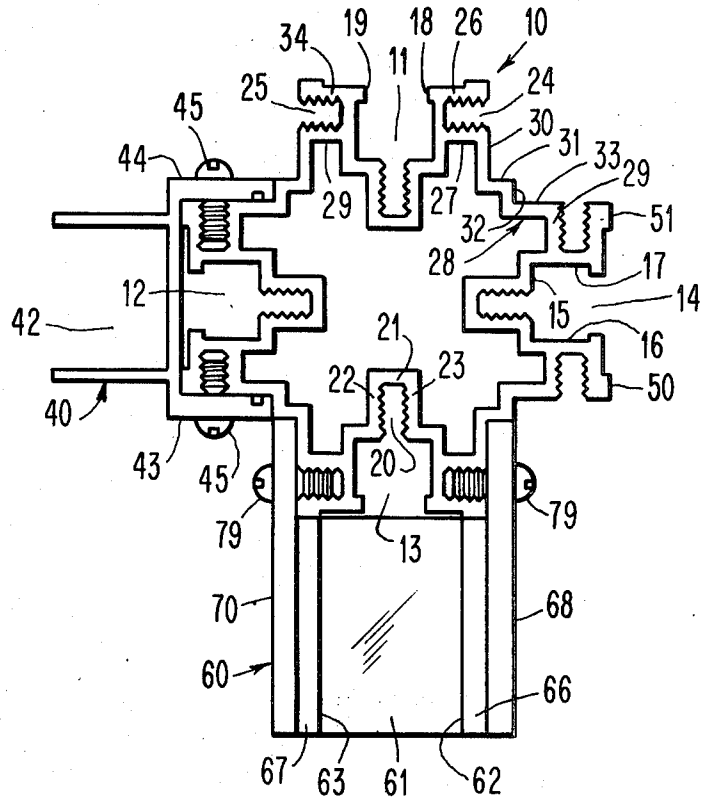
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Attorney—Frank C. Leach, Jr.

[57] **ABSTRACT**

An extruded aluminum support post has a unique configuration to enable various elements to be readily secured thereto for support thereby. One form of the unique configuration has four recesses disposed 90° from each other with a threaded groove in the bottom wall of each recess to form a first set of threaded grooves extending for the length of the post. Each of the side walls of each recess forms a bottom wall of a threaded groove forming a second set of threaded grooves with the two threaded grooves adjacent each recess being disposed perpendicular to the threaded groove forming the bottom wall of the recess and having their mouths open away from the recess. A second form has a circular post with a first set of threaded grooves disposed at a lesser radius from the longitudinal axis of the post than a second set of threaded grooves, which are disposed between each adjacent pair of the first set of the threaded grooves.

8 Claims, 8 Drawing Figures



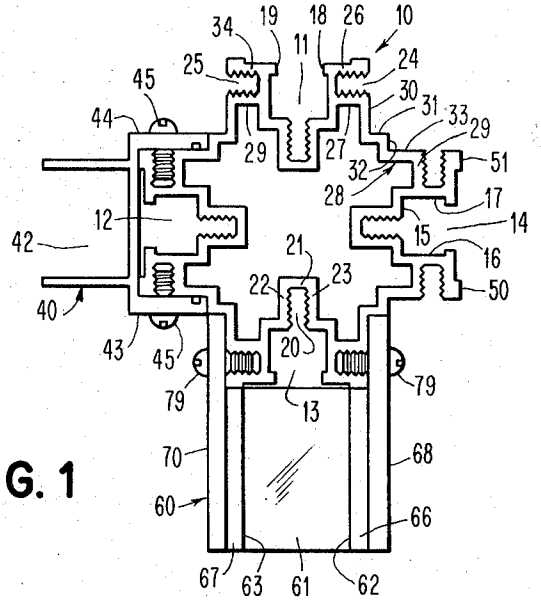


FIG. 1

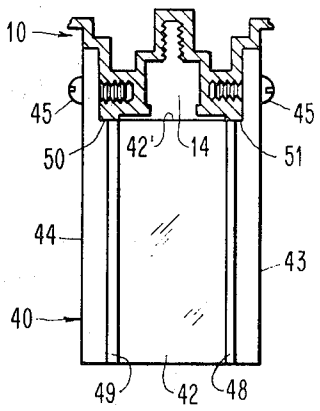


FIG. 2

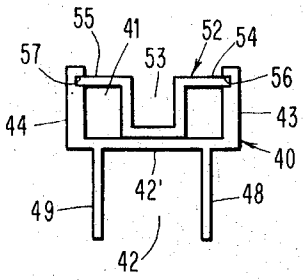


FIG. 3

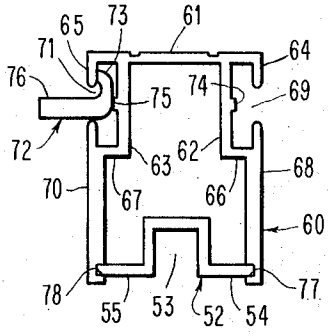


FIG. 4

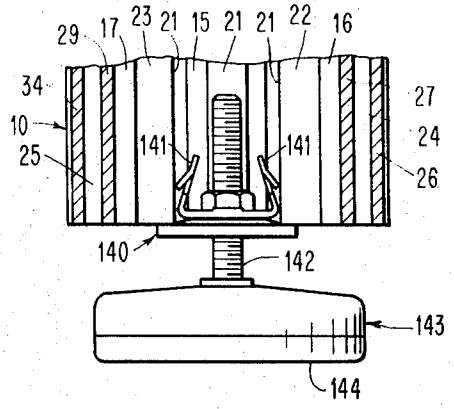


FIG. 7

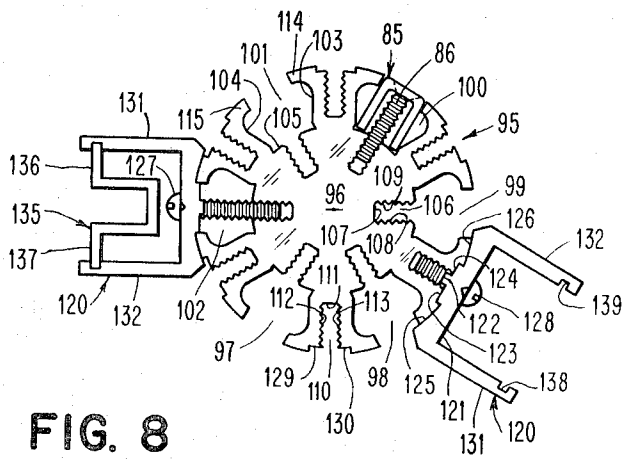


FIG. 8

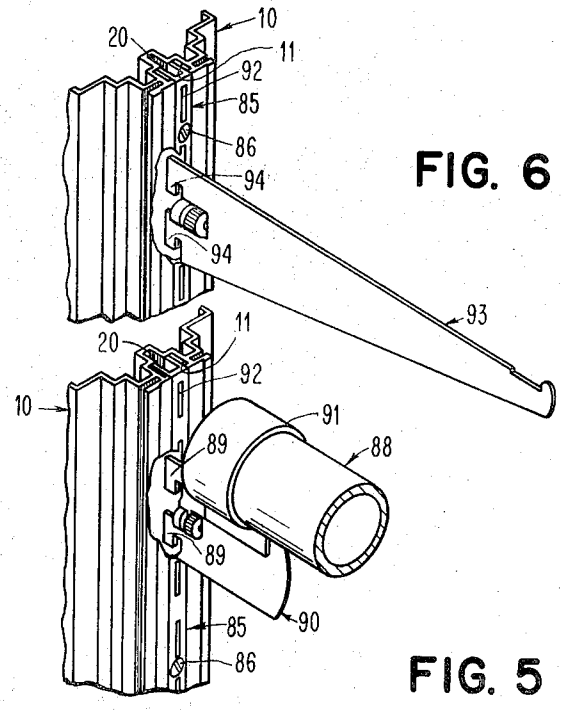


FIG. 6

FIG. 5

LONGITUDINAL SUPPORT POST

In retail stores, it is desired to be able to obtain as much display area for each square foot of floor space as is reasonably possible. Depending on the type of merchandise being sold by the store, it may be desired to display the merchandise in a vertical arrangement because of the relatively small size of the articles. Thus, to obtain maximum display of merchandise of relatively small size, it is desired to be able to arrange shelves, for example, in a vertically spaced relation and away from the walls whereby the articles may be displayed on each of the shelves.

Furthermore, since the types of merchandise offered by a retail store may change over a period of time, it is desired to have sufficient flexibility as to what may be sold in a particular area. Therefore, it is desired that the display arrangement be capable of being easily constructed and easily removed.

Various types of support structures have previously been used for areas in which shelves, for example, have been arranged in vertically spaced relation. However, these display arrangements have utilized either wood support posts whereby a skilled carpenter must be employed to properly mount the support posts and shelves or extruded aluminum posts in which drilling of various holes at selected locations must occur during installation. This also requires a skilled installer.

Furthermore, when using any of the previously available display support arrangements, the removal of the display arrangement also has been both costly and time consuming. That is, the display arrangement could not be easily disassembled.

The present invention satisfactorily overcomes the foregoing problems by utilizing a longitudinal support post with a unique configuration wherein shelves, for example, may be quickly and easily installed. It is not necessary for the installer to be skilled, and the erection or dismantling of a display arrangement utilizing the support posts of the present invention can be accomplished rather easily by non-skilled personnel. Furthermore, adjustments of the positions of the shelves of a display arrangement can easily be accomplished at any time when the support posts of the present invention are employed.

When utilizing the support posts of the present invention in a display arrangement having shelves, the support posts of the present invention also enable various types of other elements to be utilized therewith to increase the attractiveness of the display. For example, colored plastic, hardboard, or wood panels may be employed.

In addition to being useful for display arrangements, the support posts of the present invention also may be employed in providing an arrangement in which various floor areas of a large floor area may be separated from each other. This is accomplished by utilizing the support posts of the present invention in combination with panels. The panels may be readily employed to divide a large floor area into small floor areas, which may be completely enclosed offices, for example.

The support posts of the present invention also may be employed to support hang rods for clothing, for example. Thus, the present invention enables display of clothing, for example, in various portions of a large floor area so that easier viewing of a larger quantity of clothing is available to the customer.

An object of this invention is to provide a support post to which mamy different structural elements may be easily attached.

Another object of this invention is to provide a merchandise display system utilizing extruded aluminum support posts.

Other objects of this invention will be readily perceived from the following description, claims, and drawings.

This invention relates to a longitudinal support post having a plurality of longitudinal recesses extending for the length of the post and equally angularly spaced from each other. Each of the recesses includes a bottom wall and a pair of side walls with each of the recesses having a threaded longitudinal groove in its bottom wall to form a first set of threaded grooves. Each of the threaded grooves of the first set extends for the length of the post and is disposed the same distance from the longitudinal axis of the post. A second set of threaded longitudinal grooves extends the length of the post with each of the threaded grooves of the second set being disposed the same distance from the longitudinal axis of the post and a greater distance from the longitudinal axis of the post than each of the threaded grooves of the first set. The second set of threaded grooves has at least one threaded groove between each adjacent pair of the recesses.

The attached drawings illustrate preferred embodiments of the invention, in which:

FIG. 1 is a top plan view of one form of the longitudinal support post of the present invention and disclosing two different structural elements supported thereby;

FIG. 2 is a sectional view of a portion of the support post of FIG. 1 and showing the manner of supporting one of the structural elements of FIG. 1 in a different position;

FIG. 3 is an end elevational view of the structural element attached to the support post in FIGS. 1 and 2;

FIG. 4 is an end elevational view of the other of the structural elements attached to the support post in FIG. 1;

FIG. 5 is a perspective view of another structural element attached to the support post of FIG. 1 and supporting a member that supports a hang rod;

FIG. 6 is a perspective view of another structural element attached to the support post of FIG. 1 and showing a shelf support supported thereby;

FIG. 7 is a fragmentary vertical sectional view of the support post of FIG. 1 and showing means for supporting the bottom of the support post; and

FIG. 8 is a top plan view of another form of longitudinal support post of the present invention and showing structural elements secured to the support post with one of the structural elements being secured to the support post in two different positions.

Referring to the drawings and particularly FIG. 1, there is shown a longitudinal support post 10 of the present invention. The support post 10 is formed of extruded aluminum.

The support post 10 has a substantially square configuration with four recesses 11, 12, 13, and 14 extending for the length of the post 10. The recesses 11–14 are disposed the same distance from the longitudinal axis of the post 10 and are spaced 90° from each other.

Each of the recesses 11–14 has a bottom wall 15 and a pair of substantially parallel side walls 16 and 17. The side walls 16 and 17 have flanges 18 and 19, respec-

tively, extending therefrom toward the other of the side walls. This reduces the size of the opening into the recess in comparison with the size of the recess between the side walls **16** and **17**.

The bottom wall **15** of each of the recesses **11–14** is formed with a threaded groove **20** extending for the length of the support post **10**. The threaded grooves **20** form a first set of threaded grooves which are disposed the same distance from the longitudinal axis of the support post **10** and are spaced 90° from each other.

Each of the threaded grooves **20** has a bottom wall **21** and substantially parallel side walls **22** and **23**. Each of the side walls **22** and **23** is formed with threads for its entire length so that a screw may be threadedly received in the threaded groove **20** anywhere along the length of the support post **10**.

Each of the recesses **11–14** has a pair of threaded grooves **24** and **25** on the outer surfaces of the side walls **16** and **17**, respectively, thereof. The threaded grooves **24** and **25** of each of the recesses **14–14** are disposed the same distance from the longitudinal axis of the support post **10** and substantially perpendicular to the threaded groove **20** of the first set of the same recess. Thus, the threaded grooves **24** and **25** form a second set of threaded grooves for cooperation with the recesses **11–14**.

The threaded groove **24** has its bottom wall formed by a portion of the side wall **16** of the recess. The threaded groove **24** has a side wall **26** extending from the upper end of the side wall **16** and substantially perpendicular thereto. The threaded groove **24** has a side wall **27**, which is substantially perpendicular to the side wall **16** from which it extends and substantially parallel to the side wall **26**, integral with a connecting element **28**, which extends from the side wall **27** to a side wall **29** of the threaded groove **25** of the next adjacent recess and forms steps therebetween.

Each of the side walls **26** and **27** of the threaded groove **24** is formed with threads for its entire length. Accordingly, a threaded screw may be received in the threaded groove **24** anywhere along the length of the support post **10**.

The connecting element **28** includes a first portion **30**, which is substantially perpendicular to the side wall **27** of the threaded groove **24** and substantially parallel to the side wall **16** of the recess. The outer surface of the first portion **30** of the connecting element **28** and the end surface of the side wall **26** of the threaded groove **24** are in a plane, which is substantially parallel to the side walls **16** and **17** of the recess. Thus, a structural element, which is secured to the support post **10** by screws being disposed in the threaded grooves **24** and **25**, may contact the end surface of the side wall **26** of the threaded groove **24** and the outer surface of the first portion **30** of the connecting element **28**.

The connecting element **28** has a second portion **31**, which is disposed substantially perpendicular to the first portion **30** to form a step at the junction therebetween. Accordingly, when a structural element is secured to the longitudinal post **10** by having screws engage the threaded grooves **24** and **25**, one of its ends can abut against the step, which is formed by the first portion **30** and the second portion **31** of the connecting element **28**.

The connecting element **28** has a third portion **32**, which is disposed substantially perpendicular to the second portion **31** and substantially parallel to the first portion **30** of the connecting element **28**. The connecting element **28** has a fourth portion **33**, which is substantially perpendicular to the third portion **32** and substantially parallel to the side wall **17** of the next adjacent recess. The connecting element **28** has the fourth portion **33** substantially perpendicular to the side wall **29** of the threaded groove **25** of the next adjacent recess and integral therewith.

The threaded groove **25**, which has its bottom wall formed by a portion of the side wall **17** of the recess, has a side wall **34** extending from the upper end of the side wall **17** of the recess and substantially perpendicular thereto. The side walls **29** and **34** of the threaded groove **25** are substantially parallel to each other. Each of the side walls **29** and **34** of the threaded groove **25** is threaded along its entire length so that a screw may be received in the threaded groove **25** along the length of the support post **10**.

The outer surface of the fourth portion **33** of the connecting element **28** and the end surface of the side wall **34** of the threaded groove **25** are disposed in the same plane, which is substantially parallel to the side walls **16** and **17** of the recess. Accordingly, a structural element, which is secured to the support post **10** by screws extending into the threaded grooves **24** and **25**, rests against the end surface of the side wall **34** of the threaded groove **25** and the outer surface of the fourth portion **33** of the connecting element **28**.

A step is formed by the cooperation of the third portion **32** and the fourth portion **33** of the connecting element **28** to limit the movement of the structural element, which is connected to the support post **10**. Thus, the two steps, which are formed by the first portion **30** and the second portion **31** of the connecting element **28** and by the third portion **32** and the fourth portion **33** of the connecting element **28**, allow structural elements to be connected to the support post **10** at 90° to each other as shown in FIG. **1**. There is no interference between these two structural elements because of the steps.

One type of structural element for use with the support post **10** is a longitudinal element **40**, which has a larger U-shaped channel **41** (see FIG. 3) and a smaller U-shaped channel **42** with a common base wall **42'** therebetween. The element **40** can be arranged on the support post **10** so that it can extend in the same direction as the support post **10** (The element **40** is so shown adjacent the recess **12** in FIG. **1**.) or extend perpendicular thereto (The element **40** is so shown adjacent the recess **14** in FIG. **2**.).

When the element **40** is arranged so that it extends in the same direction as the support post **10**, the larger U-shaped channel **41** has its side walls **43** and **44** disposed in overlapping relation to the threaded grooves **24** and **25** of the second set of threaded grooves as shown adjacent the recess **12** in FIG. **1**. The ends of the walls **43** and **44** abut against the steps in the connecting elements **28** as shown in FIG. **1**. The element **40** is secured to the support post **10** by screws **45** extending through longitudinally spaced holes in the walls **43** and **44** of the larger U-shaped channel **41** of the element **40** and into the threaded grooves **24** and **25**. Accordingly, the element **40** may be quickly secured to the support post **10**.

When the element **40** is secured on the support post **10** so that it extends in the longitudinal direction, the smaller U-shaped channel **42** is positioned as shown in

FIG. 1 to receive a panel, for example. The other end of the panel would be secured in the smaller U-shaped channel 42 of another of the elements 40, which would be secured to another of the longitudinal support posts 10. In this manner, a room divider, for example, could be provided. Similarly, the panel could be a plastic decorative panel with shelves disposed therebeneath, for example.

If only two of the support posts 10 are utilized, the support posts 10 must extend to the ceiling for support or the bottoms of the support posts 10 must have large base supports. Of course, neither of these is necessary if a third of the support posts 10 is arranged so that there is a connection between the third support post 10 and one of the two support posts 10, either by using panels within the U-shaped channels 42 of the elements 40 or by other structural elements.

When the element 40 is secured so that it extends substantially perpendicular to the support post 10 as is shown in FIG. 2 adjacent the recess 14, a portion of the common base wall 42' and portions of side walls 48 and 49 of the smaller U-shaped channel 42 of the element 40 are cut away so that their ends abut against protrusions 50 and 51 on the side wall 26 of the threaded groove 24 and the side wall 34 of the threaded groove 25, respectively. The element 40 is still secured to the support post 10 through the screws 45 being disposed in the threaded grooves 24 and 25 by extending through holes in the side walls 43 and 44 of the larger U-shaped channel 41 of the element 40.

When the element 40 is disposed perpendicular to the longitudinal support post 10 as shown in FIG. 2, a panel can be received in either the smaller U-shaped channel 42 or the larger U-shaped channel 41 depending on the size of the panel. In this arrangement, the element 40 extends between two of the support posts 10 with one of the elements 40 being disposed beneath the panel and the other being disposed above the panel to support the panel therebetween.

It should be understood that each of the support posts 10 must be supported at the ceiling of the room or have a large base support at its bottom if there are only two of the support posts 10 employed. If the support posts 10 do not extend to the ceiling or do not have the large base supports at their bottoms, then at least a third support post 10 must be employed with a structural element extending between the third support post 10 and one of the support posts 10 between which the panel extends.

If desired, a transparent sheet of plastic can be supported by a pair of the support posts 10 through having threaded screws pass through the plastic into one of the threaded grooves 24 and 25 on one of the support posts 10 and one of the threaded grooves 24 and 25 on the other of the support posts 10. Furthermore, the elements 40 can form upper and lower frames for the sheet of transparent plastic since the walls 48 and 49 are spaced inwardly from the walls 43 and 44 of the element 40 as shown in FIG. 3. This would necessitate the upper of the elements 40 having the smaller U-shaped channel 42 on the bottom and the lower of the elements 40 having the smaller U-shaped channel 42 on the top.

Furthermore, a longitudinal element 52 (see FIG. 3) is adapted to be supported in the larger U-shaped channel 41 of the element 40 so that a smaller size panel can be supported thereby. The element 52 has a U-shaped channel 53, which is smaller than the smaller U-shaped channel 42 of the element 40.

The element 52 is supported by the larger U-shaped channel 41 of the element 40 through having fingers 54 and 55 thereof disposed within grooves 56 and 57 in the inner surfaces of the side walls 43 and 44, respectively, of the larger U-shaped channel 41 of the element 40. This arrangement results in any of three different sized panels being readily supported in the element 40.

By disposing four of the support posts 10 in a rectangular arrangement, a rectangular shaped panel structure could be supported by having the elements 40 extend between the support posts 10. That is, panels would extend at right angles to each other and be supported by the support posts 10 through the use of the elements 40 along with the elements 52, if desired, depending on the size of the panels.

Referring to FIG. 4, there is shown a longitudinal structural element 60, which is supported perpendicular to the support post 10 as shown in FIG. 1. The element 60 includes a base wall 61 and a pair of walls 62 and 63 extending substantially perpendicular from the base wall 61 intermediate its ends. The walls 61, 62, and 63 cooperate to form a U-shaped channel. The ends of the base wall 61 have walls 64 and 65 extending substantially perpendicular therefrom and disposed substantially parallel to the walls 62 and 63.

The walls 62 and 63 have walls 66 and 67, respectively, disposed at their ends which are remote from the base wall 61. The walls 66 and 67 are disposed substantially perpendicular to the walls 62 and 63 and substantially parallel to the base wall 61.

A wall 68 extends substantially perpendicular to the wall 66 and is spaced from the wall 62 and substantially parallel thereto. The wall 68 is aligned with the wall 64 but is spaced therefrom so as to form an opening 69 therebetween.

The wall 67 has a wall 70 extending substantially perpendicular thereto and aligned with the wall 65. The wall 70, which is substantially parallel to the wall 63 and spaced therefrom, is spaced from the wall 65 to form an opening 71 therebetween.

With the element 60 extending between two of the support posts 10 to which its ends are secured, a longitudinal J-shaped element 72 can be supported by the element 60 through having its curved end 73 disposed within the opening 69 or 71. When the element 60 is supported by the support posts 10 so that the base wall 61 is at the top of the element 60 (This is the position of the element 60 in FIG. 4.), the J-shaped element 72 has its curved end 73 disposed between the walls 62 and 64 when the element 72 is inserted within the opening 69 and between the walls 63 and 65 when the element 72 is inserted in the opening 71.

When the element 72 is inserted in the opening 69, the curved end 73 of the element 72 bears against a protrusion 74 on the wall 62. When the element is inserted in the opening 71, the curved end 73 bears against a protrusion 75 on the wall 63 as is shown in FIG. 4.

When the base wall 61 of the element 60 is at the bottom of the element 60 (This is the position shown in FIG. 1.), then the curved end 73 of the element 72 is supported between the walls 62 and 68 when the element 72 is inserted in the opening 69 and between the walls 63 and 70 when the element 72 is inserted in the

opening 71. The curved end 73 of the element 72 again bears against either the protrusion 74 or 75.

In either arrangement, the J-shaped element 72 has its flat portion 76 disposed substantially perpendicular to the wall 68 or 70. Accordingly, the flat portion 76 of the element 72 functions as a support for one side of a shelf, for example.

The walls 68 and 70 also extend away from the walls 66 and 67 in addition to extending toward the base wall 61. As shown in FIG. 4, the portions of the walls 68 and 70 extending away from the walls 66 and 67 are thicker and have a longer length than the portions extending toward the base wall 61.

A panel, for example, can be supported in the element 60 through being disposed within the U-shaped channel formed by the walls 61, 62, and 63. The panel also can be supported on the walls 66 and 67 if the panel is thicker than the distance between the walls 62 and 63.

Additionally, the element 52 also can be supported by the element 60 as shown in FIG. 4. Thus, the inner surfaces of the walls 68 and 70 of the element 60 have grooves 77 and 78, respectively, therein to receive the fingers 54 and 55 of the element 52. This results in the U-shaped channel 53 of the element 52 being disposed within the element 60 to receive a panel of even smaller thickness than that which could be supported in the U-shaped channel defined by the walls 61, 62, and 63 of the element 60.

The element 60 is connected to the support post 10 by screws 79 (see FIG. 1), which pass through holes in the thicker portions of the walls 68 and 70 of the element 60 and into the threaded grooves 24 and 25. It is necessary to cut away portions of the walls 61, 62, 63, 66, and 67 to enable the walls 64, 65, 68, and 70 to embrace the longitudinal support post 10 so that the threaded grooves 24 and 25 can receive the screws 79. The ends of the walls 64, 65, 68, and 70 abut against the steps in the connecting elements 28 of the support post 10.

While the elements 40 and 60 have been shown as being secured to the support post 10 through having screws attached to the threaded grooves 24 and 25 of the second set of threaded grooves, one of the recesses 11–14 of the support post 10 and one of the threaded grooves 20 of the first set of threaded grooves are employed to hold a U-shaped slotted standard 85 (see FIG. 5) on the support post 10. Each of the recesses 11–14 is designed so that the U-shaped slotted standard 85 fits substantially within the recess with the ends of the flanges 18 and 19 of the side walls 16 and 17, respectively, of the recess engaging the sides of the standard 85. The slotted standard 85 is retained within the recess (The standard 85 is disposed in the recess 11 in FIG. 5.) through screws 86, which pass through longitudinally spaced holes in the slotted standard 85, being threaded into the threaded groove 20 of the recess.

The slotted standard 85 may be employed to hold various structural elements. For example, a hollow rod 88, which would support hangers for clothing, can be supported by the slotted standard 85 through projections 89 on a member 90, which has a hollow cylindrical shaped support 91 for the rod 88, extending into spaced longitudinal slots 92 in the standard 85.

It should be understood that another of the support posts 10 is required with the standard 85 in one of the recesses 11–14 so that the other end of the hollow rod 88 can be supported by another of the members 90. Furthermore, if the support posts 10 do not extend to the ceiling so as to be supported thereby as well as on the floor, it would be necessary to utilize either large base supports for the posts 10 or at least a third of the support posts 10 with a structural element extending between the third support post 10 and one of the two support posts 10 having the hollow rod 88 extending therebetween.

As shown in FIG. 6, the slotted standard 85 also may be employed to support a shelf bracket 93. The bracket 93 includes projections 94, which are disposable within the spaced longitudinal slots 92 in the slotted standard 85. Thus, this is another arrangement for supporting shelves by using the support posts 10 besides that in which the element 60 would be employed with the J-shaped element 72.

It should be understood that two of the support posts 10 are required to support two of the shelf brackets 93 so that a shelf may be supported thereon. Furthermore, if the support posts 10 do not extend to the ceiling for support thereby, it would be necessary to utilize either large base supports for the posts 10 or four of the support posts 10 in some type of rectangular configuration so that a shelf of glass, for example, could be supported with one side being supported by two of the shelf brackets 93 on two of the support posts 10 and the opposite side being supported by two other of the shelf brackets 93 on the other two support posts 10. Of course, it would be necessary to secure the support posts 10 to each other by a structural element such as one of the structural elements 40 or 60, for example.

Referring to FIG. 8, there is shown a longitudinal support post 95, which also is formed of extruded aluminum, having a circular configuration. The support post 95 includes a central solid portion 96 having a plurality of recesses 97, 98, 99, 100, 101, and 102 formed in the periphery.

Each of the recesses 97–102 has a pair of diverging side walls 103 and 104 and a bottom wall 105. The bottom wall 105 of each of the recesses 97–102 is formed with a threaded groove 106 extending for the length of the support post 95. The threaded grooves 106 form a first set of threaded grooves, which are disposed the same radial distance from the longitudinal axis of the support post 95 and are spaced 60° from each other.

Each of the threaded grooves 106 has a bottom wall 107 and substantially parallel side walls 108 and 109. Each of the side walls 108 and 109 is formed with threads along its entire length so that a screw may be threadedly received in the threaded groove 106 anywhere along the length of the support post 95.

The support post 95 has a threaded groove 110 disposed between each adjacent pair of the recesses 97–102. The threaded grooves 110, which are disposed 60° from each other, form a second set of threaded grooves with the threaded grooves 110 being the same radial distance, which is greater than the radial distance of the first set of threaded grooves 106, from the longitudinal axis of the support post 95.

Each of the threaded grooves 110 extends for the length of the support post 95 and has a bottom wall 111 and side walls 112 and 113. The side walls 112 and 113 are threaded for their entire length. Accordingly, a threaded screw may be received in the threaded groove 110 anywhere along the length of the support post 95.

The side walls 103 and 104 of each of the recesses 97–102 have flanges 114 and 115, respectively, on their outer ends and extending toward each other. The flanges 114 and 115 reduce the size of the opening into the recess to approximately that of the minimum size of the recess.

One type of structural element for use with the support post 95 is a U-shaped longitudinal element 120. The U-shaped element 120 has the outer surface of its base wall 121 formed with a unique configuration for cooperation with the support post 95 so that the element 120 may be secured to the support post 95 through screws cooperating with either the threaded groove 106 or the threaded groove 110.

The outer surface of the base wall 121 of the element 120 has a central U-shaped portion 122 and a pair of flat portions 123 and 124 on opposite sides of the central U-shaped portion 122. The U-shaped portion 122 extends beyond the flat portions 123 and 124. The base wall 121 also has curved portions 125 and 126 adjacent the flat portions 123 and 124, respectively.

When the U-shaped element 120 is to be secured to the support post 95 by screws 127 extending through longitudinally spaced holes in the base wall 121 of the element 120 for threaded engagement with one of the threaded grooves 106 of the first set of threaded grooves, the U-shaped element 120 is disposed so that the curved portions 125 and 126 engage against outer curved surfaces of the flanges 114 and 115. When the U-shaped element 120 is to be secured to the support post 95 by screws 128 extending through the longitudinally spaced holes in the base wall 121 for threaded engagement with one of the threaded grooves 110, the U-shaped portion 122 of the base wall 121 protrudes into the threaded groove 110 while the flat portions 123 and 124 rest against outer surfaces 129 and 130 of the support post 95. The outer surfaces 129 and 130 do not protrude as far as the outer surfaces of the flanges 114 and 115. As shown in FIG. 8, the curved portions 125 and 126 of the base wall 121 of the element 120 rest against the outer surface of the flange 115 of the recess 98 and against the outer surface of the flange 114 of the recess 99, which is next adjacent to the recess 98, respectively.

The U-shaped element 120 can receive a panel therein for support between the base wall 121 and side walls 131 and 132 of the U-shaped element 120. If it is desired to support a panel of smaller thickness than the width of the U-shaped element 120, a U-shaped element 135 may be supported within the U-shaped element 120. The U-shaped element 135 has fingers 136 and 137 for disposition in grooves 138 and 139 in the inner surfaces of the side walls 131 and 132, respectively, of the U-shaped element 120. Thus, a panel of smaller thickness also can be handled by mounting the element 135 within the element 120.

Furthermore, the support post 95 can receive the slotted standard 85 within any of the recesses 97–102. The slotted standard 85, which could be utilized to support the member 90 or the shelf bracket 93 as previously described with respect to the support post 10, is secured to the post 95 through the screws 86 extending into the threaded groove 106 as shown in FIG. 8.

While the present invention has shown and described the support posts 10 and 95 being utilized with various types of structural elements, it should be understood that these are merely for illustrative purposes. Other types of structural elements may be employed with the support posts 10 and 95.

While the support post 10 or 95 can be readily supported on a floor, a support for the bottom of the support post 10 is shown in FIG. 7. The support includes a member 140, which is partially received within the hollow portion of the support post 10 and has portions 141 engaging the bottom wall 21 of each of the two opposed threaded grooves 20. The member 140 has a threaded opening in its center to receive a threaded rod 142 of a foot 143. The foot 143 includes a circular support element 144 on the end of the threaded rod 142. Thus, the use of the foot 143 would enable leveling, if such is necessary, of one or more of the support posts 10 due to the floor not being level, for example.

When the support post 95 is to use the foot 143, the central solid portion 96 has a threaded opening drilled in its end along its longitudinal axis to receive the threaded rod 142 of the foot 143. The member 140 is not used with the support post 95.

An advantage of this invention is that it enables a single type of longitudinal support post to be used for many different purposes. Another advantage of this invention is that it increases the display area in a retail store at a relatively low cost. A further advantage of this invention is that the longitudinal support post may support structures of any desired height.

For purposes of exemplification, particular embodiments of the invention have been shown and described according to the best present understanding thereof. However, it will be apparent that changes and modifications in the arrangement and construction of the parts thereof may be resorted to without departing from the spirit and scope of the invention.

I claim:

1. A longitudinal support post having:

a plurality of longitudinal recesses extending for the length of said post and equally angularly spaced from each other;

each of said recesses including a bottom wall and a pair of side walls, each of said side walls extending from said bottom wall in a direction away from the longitudinal axis of said post;

each of said recesses having a threaded longitudinal groove in its bottom wall to form a first set of threaded grooves;

each of said threaded grooves of said first set extending for the length of said post;

each of said threaded grooves of said first set being disposed the same distance from the longitudinal axis of said post;

said side walls of each of said recesses being spaced further apart from each other than the mouth of said threaded groove in said bottom wall of said recess;

a second set of threaded longitudinal grooves extending for the length of said post;

each of said threaded grooves of said second set being disposed the same distance from the longitudinal axis of said post;

each of said threaded grooves of said second set being disposed a greater distance from the longitudinal axis of said post than each of said threaded grooves of said first set;

said second set of threaded grooves having two threaded grooves between each adjacent pair of said recesses;

one of said two threaded grooves of said second set between the adjacent pair of said recesses having its bottom wall formed by one of said side walls of one of the adjacent pair of said recesses;

and the other of said two threaded grooves of said second set between the adjacent pair of said recesses having its bottom wall formed by one of said side walls of the other of the adjacent pair of said recesses.

2. The post according to claim **1** in which said side walls of each of said recesses are substantially parallel to each other.

3. The post according to claim **2** in which said threaded grooves of said second set adjacent each of said recesses have their mouths aligned and opening in opposite directions.

4. The post according to claim **1** in which said threaded grooves of said second set adjacent each of said recesses have their mouths aligned and opening in opposite directions.

5. The post according to claim **1** in which:

said recesses are disposed 90° from each other;

said threaded grooves of said first set are disposed 90° from each other;

each of said recesses has its side walls substantially parallel to each other and its bottom wall substantially perpendicular to its side walls;

and connecting means extends between a side wall of one of said threaded grooves of said second set of one of each adjacent pair of said recesses and a side wall of one of said threaded grooves of said second set of the other of each adjacent pair of said recesses to form a pair of steps substantially perpendicular to each other.

6. The post according to claim **5** in which each of said connecting means includes:

a connecting element;

said connecting element includes a first portion connected to the side wall of said one threaded groove of said second set of said one recess of the adjacent pair of said recesses and substantially perpendicular thereto, a second portion substantially perpendicular to said first portion, a third portion substantially perpendicular to said second portion, and a fourth portion substantially perpendicular to said third portion, said fourth portion being connected to a side wall of said one threaded groove of said second set of said other recess of the adjacent pair of said recesses and substantially perpendicular thereto;

and said first and second portions of said connecting element cooperating to form a first step at their junction and said third and fourth portions of said connecting element cooperating to form a second step at their junction.

7. The post according to claim **1** in which each of said threaded grooves of said second set for each of said recesses is substantially perpendicular to said threaded groove of said first set of said recess.

8. The post according to claim **7** in which said threaded grooves of said second set adjacent each of said recesses have their mouths aligned and opening in opposite directions.

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