

Feb. 2, 1971

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3,559,352

INTERIOR SPACE DIVIDER ARRANGEMENT

Filed March 12, 1969

4 Sheets-Sheet 1

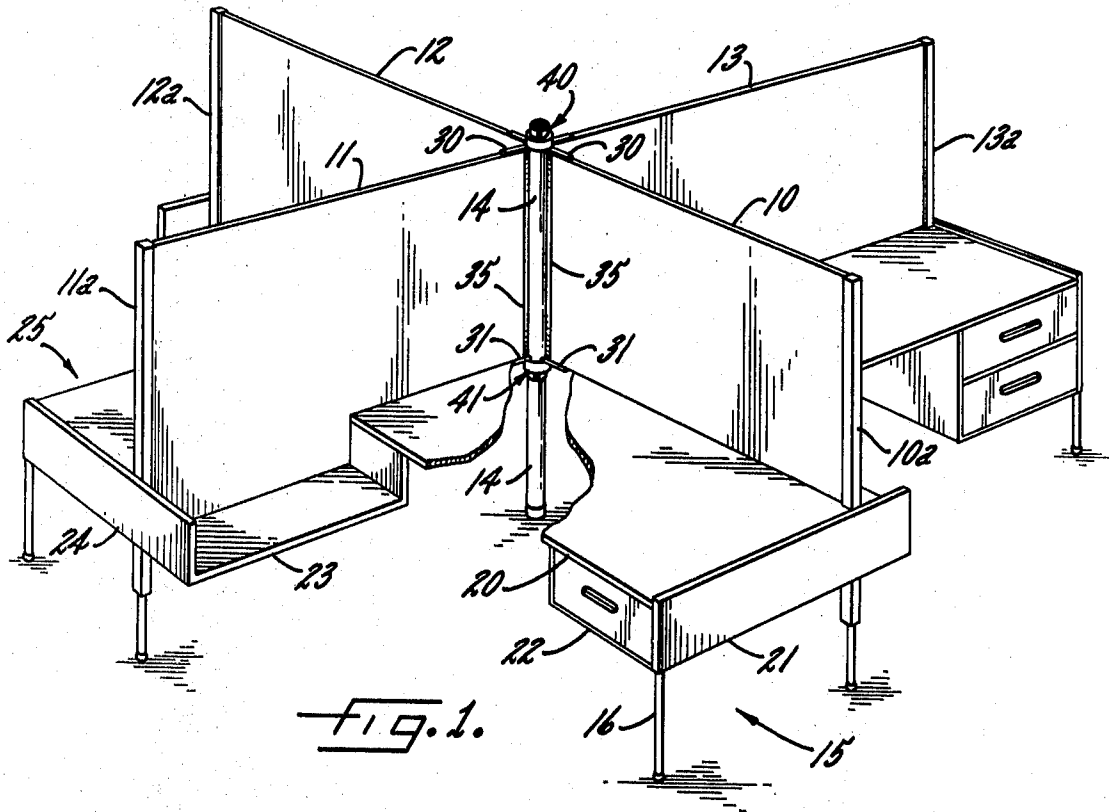


FIG. 1.

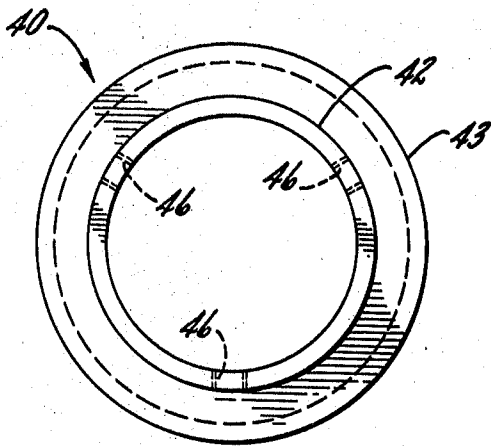


FIG. 2.

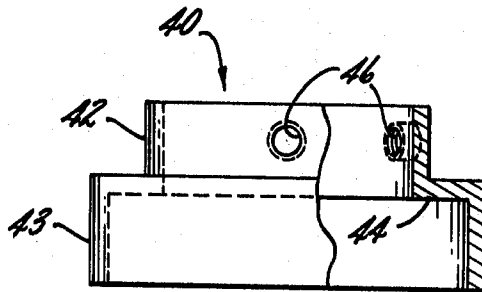


FIG. 3.

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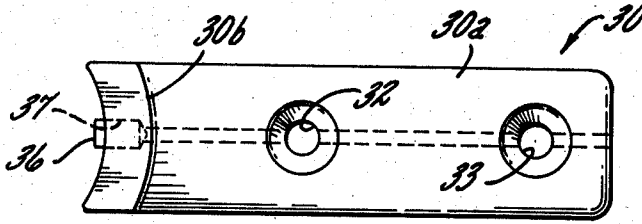


FIG. 4.

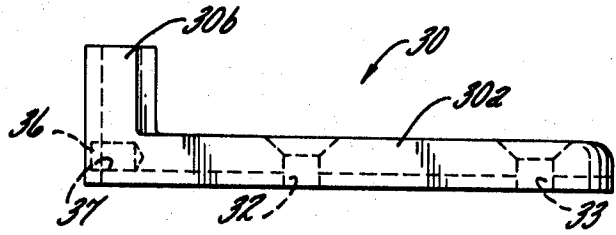


FIG. 5.

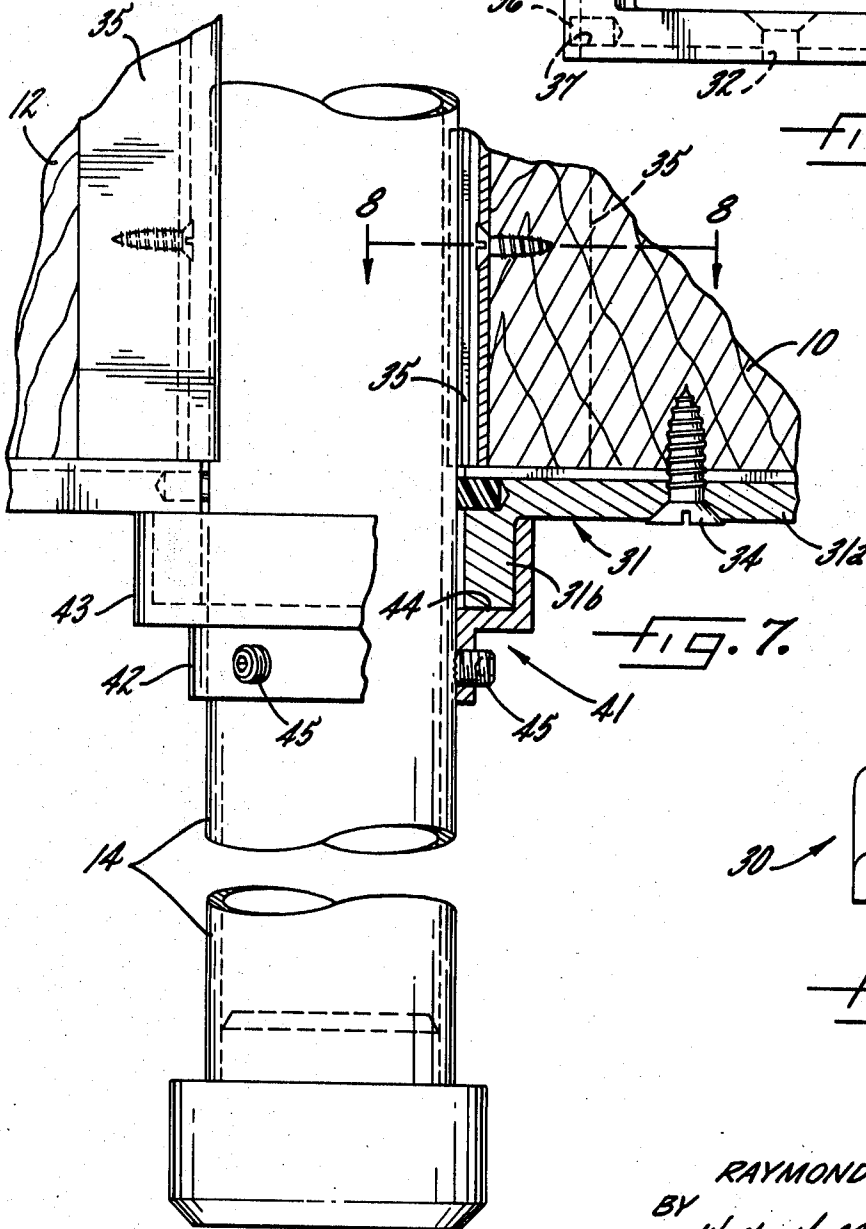


FIG. 7.

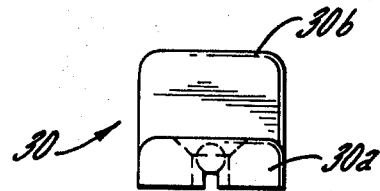


FIG. 6.

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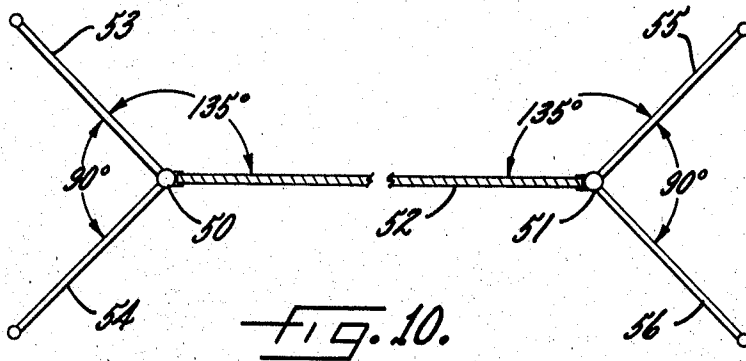
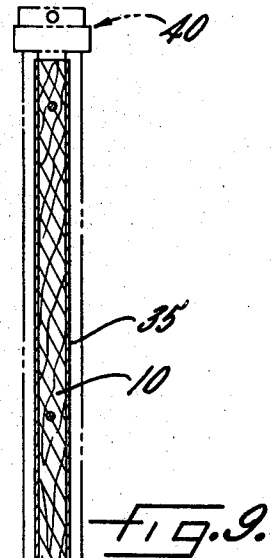
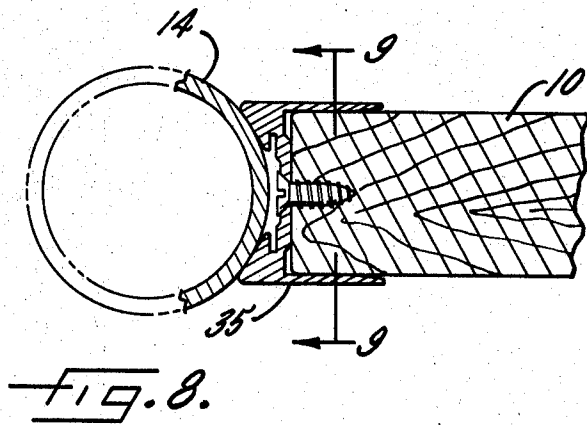
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INTERIOR SPACE DIVIDER ARRANGEMENT

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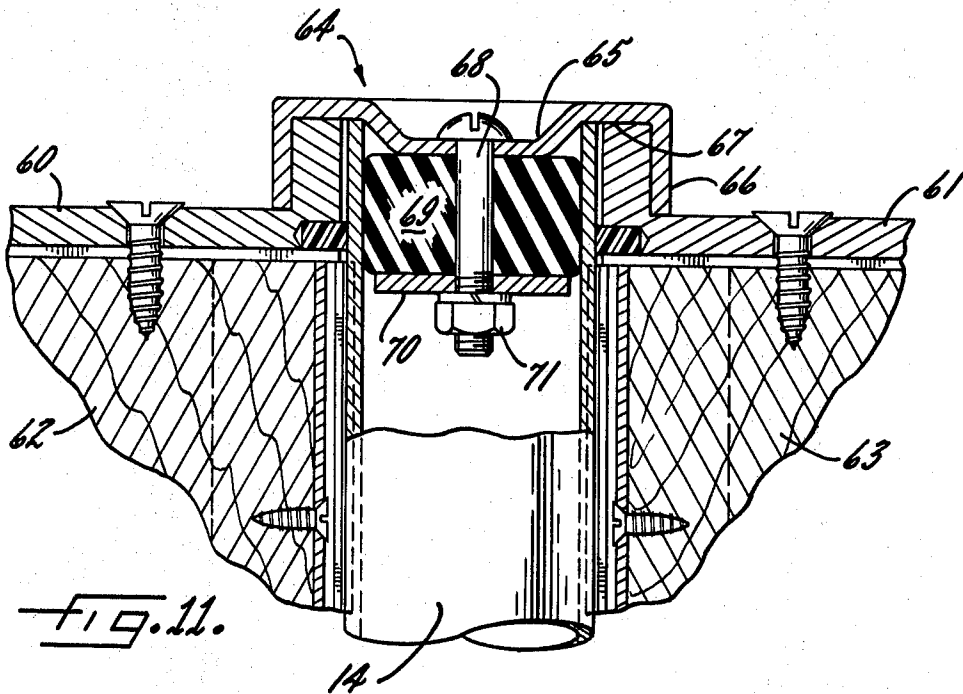


FIG. 11.

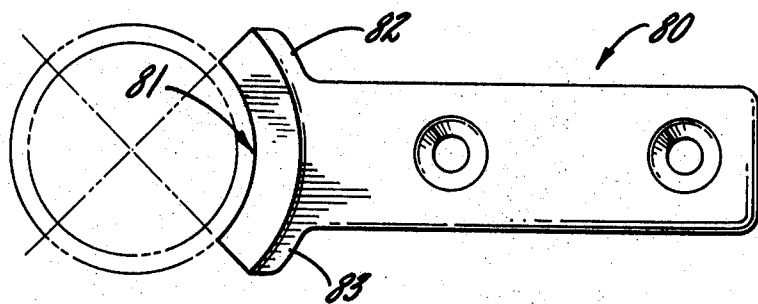


FIG. 12.

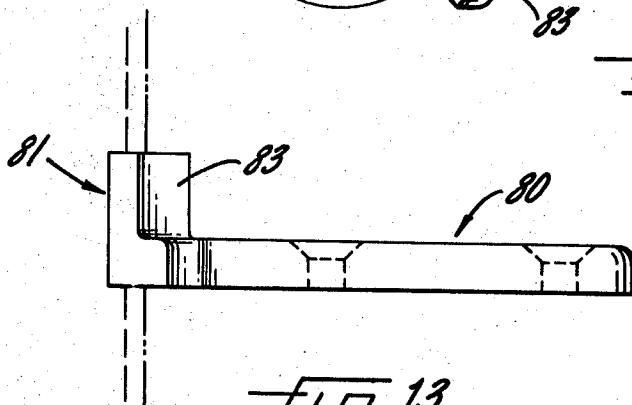


FIG. 13.

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INTERIOR SPACE DIVIDER ARRANGEMENT
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Int. Cl. A47b 96/12; E04b 1/343

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7 Claims

ABSTRACT OF THE DISCLOSURE

A versatile interior space dividing arrangement including one or more round vertical posts with each post having a plurality of panels or other space dividing elements mounted thereon. A pair of adjustable collars are fitted over each post for receiving mounting brackets secured to the panels, with the collars and brackets cooperating with each other to permit adjustment of the angular positions of the panels. The vertical positions of the panels may also be adjusted by moving the collars longitudinally along the posts. Each panel is preferably provided with a channel member secured to the edge of the panel adjacent the post and complementally formed with respect to the post so that the panel may be pivoted around the post and yet the channel member blocks the view between the panels and the posts.

DESCRIPTION OF THE INVENTION

The present invention relates generally to interior space dividers and, more particularly, to an improved versatile space dividing arrangement which is suitable for use in "office landscaping" and the like.

It is a primary object of the present invention to provide an improved interior space dividing system which is extremely versatile and flexible in that it permits the use of various sizes of panels and other space dividing elements with a common supporting structure. A more particular object of the invention is to provide such an interior space dividing system which includes a universal supporting arrangement that can be used interchangeably with a wide variety of different space dividing elements such as panels, carrels, bookshelves and the like, and in a wide variety of different dimensions.

It is another object of the present invention to provide an improved interior space dividing system which is effectively closed to the viewer, i.e., which blocks any views between the supporting elements and the space dividing elements. In this connection, a related object of the invention is to provide such an improved space dividing system which provides maximum privacy in the areas on opposite sides of the space dividing elements.

It is a further object of the invention to provide an improved space dividing system of the foregoing type which can be quickly and easily assembled and disassembled, and yet holds all the components thereof securely in place when assembled.

Still another object of the invention is to provide an improved space dividing system of the type described above which permits the space dividing elements to be adjusted either vertically or angularly without disassembling the system.

A further object of the invention is to provide an improved interior space dividing system of the type described above which can be made with relatively few standardized parts, and in which certain parts can be used interchangeably for two or more functions.

Yet another object of the invention is to provide an improved interior space dividing system of the foregoing type which can be efficiently manufactured at a relatively low cost.

Other objects and advantages of the invention will be apparent from the following detailed description taken in connection with the accompanying drawings, in which:

FIG. 1 is a perspective view of a space dividing arrangement embodying the present invention, with a fragment thereof broken away to reveal the central supporting structure;

FIG. 2 is an enlarged plan view of one of the collars fitted over the central post in the arrangement of FIG. 1;

FIG. 3 is an elevation, partially in section, of the collar shown in FIG. 2;

FIG. 4 is an enlarged plan view of one of the mounting brackets used to mount the space dividing elements on the central post in the arrangement of FIG. 1;

FIG. 5 is a side elevation of the bracket shown in FIG. 4;

FIG. 6 is an end elevation of the bracket shown in FIG. 4;

FIG. 7 is an enlarged elevation, partially in section, of the lower portion of the central supporting structure of the arrangement shown in FIG. 1;

FIG. 8 is a section along line 8—8 in FIG. 7;

FIG. 9 is a section along line 9—9 in FIG. 8;

FIG. 10 is a plan view of a modified space dividing arrangement using the same basic supporting structure as the system of FIGS. 1—9;

FIG. 11 is an enlarged vertical section of a modified design for the top of the supporting structure in the arrangements of FIGS. 1 and 10;

FIG. 12 is an enlarged plan view of a modified mounting bracket suitable for use in the arrangements of FIGS. 1 and 10; and

FIG. 13 is a side elevation of the mounting bracket shown in FIG. 9.

While the invention is susceptible of various modifications and alternative forms, certain specific embodiments thereof have been shown by way of example in the drawings which will be described in detail herein. It should be understood, however, that it is not intended to limit the invention to the particular forms disclosed but, on the contrary, the intention is to cover all alternatives, modifications, and equivalents falling within the spirit and scope of the invention.

Turning now to the drawings, and referring first to FIG. 1, there is shown a space dividing arrangement including four symmetrically spaced panels 10, 11, 12, and 13 extending radially from a central supporting post 14. The inner edge of each of the four panels 10—13 is supported on the post 14, while the outer edges of the panels are supported by four corresponding peripheral posts 10a—13a which extend downwardly to the floor. In the particular arrangement illustrated, each pair of adjacent panels 10—13 forms a carrel which includes a desk such as the desk 15 supported by adjacent panels 10 and 11 and a short depending leg 16 at the outer corner thereof. More specifically, the desk 15 includes a desk top 20 secured to the bottom portions of the two adjacent panels 10 and 11, and carrying a side wall 21 and a drawer 22 on the right end thereof. At the left end of the desk top 20, a bookshelf 23 extend outwardly from the front edge of the desk top and is secured to both the bottom of the panel 11 and an extended portion of the side wall 24 from the next adjacent desk 25. An arrangement of this type is particularly suitable for use in libraries, and may also be useful in offices and the like where it is desired to provide a number of convenient desk areas within a relatively small space. It can be seen that the central supporting post 14 is common to all four carrels, and each of the peripheral posts 10a—13a is common to two adjacent carrels. In addition to supporting the panels and desk assemblies, the peripheral posts 10a—13a tend to stabilize the entire space dividing assembly.

In accordance with one important aspect of the present invention, the various space dividing elements are pivotally mounted on the central supporting post for adjusting the angular positions of the space dividing elements, and the mounting means are also adjustable along the axis of the post to accommodate space dividing elements of different dimensions and to permit adjustment of the vertical positions of the elements. Thus, in the particular embodiment illustrated in FIGS. 1 through 9, the space dividing panel 10 includes a pair of mounting brackets 30 and 31 secured to the top and bottom edges respectively, of the panel. As can be seen most clearly in FIGS. 4 through 7, each of the brackets 30 and 31 is generally L-shaped with the long leg 30a or 31a of the L having a pair of countersunk holes 32 and 33 formed therein to mount the brackets on the panel 10. More particularly, the longer legs 30a and 31a of the brackets 30 and 31 are placed against the top and bottom edges of the panels and secured thereto by a pair of screws inserted through the holes 32 and 33 of each bracket and threaded into the panel material, as in the case of the screw 34 illustrated in FIG. 7 for example. The brackets 30 and 31 are positioned on the panel 10 so that the shorter legs 30b and 31b of the brackets, which are complementally shaped with respect to the central post 14 (see FIG. 4), are substantially flush with the inner edge of a vertical channel member 35 (to be described below) secured to the inner edge of the panel 10.

To pivotally mount the brackets 30 and 31 on the central supporting post 14, a pair of collars 40 and 41 are fitted over the post to receive the short legs 30b and 31b of the L-shaped brackets. As shown most clearly in FIGS. 2, 3, and 7, each of the collars 40 and 41 includes a first annular section 42 adapted to slide over the post 14, and a second annular section 43 offset radially outwardly from the first section 42 so that an annular channel, indicated at 44 in FIG. 7, is formed between the inner surface of the second annular section 43 and the outside surface of the post 14. The collars 40 and 41 have circular cross-sections so that the annular section 43 is uniformly spaced away from the post 14 around the entire circumference thereof, thereby forming a uniform annular channel 44 for receiving the complementally contoured legs 30b and 31b of the corresponding brackets 30 and 31, as shown in FIG. 7. Of course, the channel formed by the upper collar 40 opens downwardly to receive the upwardly extending leg 30b of the upper bracket 30, and the channel formed by the lower collar 41 opens upwardly to receive the downwardly extending leg 31b of the lower bracket 31.

The collars 40 and 41 are held stationary in selected positions on the post 14 by means of a plurality of set screws 45 threaded through holes 46 formed in the smaller annular section 42 of each collar, but the brackets 30 and 31 are free to swivel around the post 14 within the stationary annular channels 44 formed by the collars 40 and 41. Consequently, it can be seen that the brackets 30 and 31 and the panel 10 connected thereto can be pivoted around the stationary post 14 to adjust the angular position of the panel 10, or any other space dividing elements that might be secured to the brackets 30 and 31. To facilitate sliding movement of the concave surfaces of the legs 30b and 31b over the surface of the post 14, a nylon dowel 36 is inserted in a hole 37 in each concave bracket surface. Of course, in the particular arrangement illustrated in FIG. 1, the angular positions of the panels 10, 11, 12 and 13 relative to one another are fixed by the desks connected thereto so that the angular position of any individual panel cannot be changed independently of the others. However, the entire space dividing assembly comprising the four panels 10-13 and the desks mounted thereon may be pivoted as a single unit about the post 14 to provide the desired orientation of the panels within the space being divided, without moving the post 14.

In accordance with one particular aspect of the invention, a channel member is secured to the vertical edge of one or more of the space divider panels or other elements

extending longitudinally along the surface of the central post, and at least a portion of the surface of the channel member facing the post is complementally formed with respect to the surface of the post to permit pivotal movement of the channel member relative to the post while blocking views between the post and the vertical edge of the divider element. Thus, in the illustrative embodiment, a vertical channel member 35 is secured to the inner edge of each of the panels 10-13 by means of a plurality of screws (FIGS. 8 and 9). The flanges of each channel member overlap the side surfaces of the corresponding panel to provide an appropriate trim along the vertical edge of the panel. As shown most clearly in FIG. 8, the longitudinal edge portions of the surface of the channel member 35 facing the post 14 are transversely curved with the same radius of curvature as the outer surface of the post 14, so that the channel member 35 swivels around the outer surface of the post 14 whenever the angular position of the panel 10 is adjusted. The central portion of the channel member forms a longitudinal slot for receiving a decorative strip for concealing the screws which fasten the channel member 35 to the panel, if desired.

One of the important features of the present invention is that the central supporting structure is universally applicable to a wide variety of different space dividing elements, and it is often desired to position these elements at different angles relative to each other. For example, if only the panels 10-13 were mounted on the post 14 illustrated in FIG. 1, it might be desired to position one pair of the adjacent panels only 30° away from each other, to form a semi-private telephone booth for example, while another pair of adjacent panels might be spaced 150° from each other to provide a relatively large work area. Another modified arrangement is illustrated in FIG. 10, in which two main supporting posts 50 and 51 support a common interconnecting panel 52. In addition, two panels 53, 54 are mounted on the post 50, and two similar panels 55, 56 are mounted on the post 51, with each pair of panels 53, 54 and 55, 56 being spaced 90° from each other and 135° from the central panel 52. It will be appreciated that the mounting brackets and collars in the arrangement of FIG. 10 are the same as in the arrangement of FIG. 1, thereby illustrating the versatility of the mounting system provided by this invention.

In keeping with the present invention, the means for mounting the space dividing elements of the central post are adjustable along the axis of the post for accommodating space dividing elements of different dimensions, and to permit adjustment of the vertical positions of the elements mounted thereon. Thus, in the particular embodiment illustrated in FIGS. 1 through 6, the collars 40 and 41 may be adjusted to any desired vertical positions on the post 14 by simply loosening the set screws 45 and sliding the collars 40 and 41 axially along the post to the desired positions. Consequently, the space between the collars 40 and 41 can be adjusted to accommodate panels or other space dividing elements of any desired vertical dimension, or the space between the two collars 40 and 41 may be held constant while both collars are raised or lowered to a selected vertical position for the panel or other space dividing element mounted thereon. It is generally preferred to position the two collars 40 and 41 so that the lower collar 41 is spaced a substantial distance above the floor to provide convenient access to the floor area beneath the space dividing element for cleaning purposes and the like. Moreover, the adjustability of the collars 40 and 41 facilitates assembly of the space divider arrangement. For example, in assembling the particular arrangement illustrated in FIG. 1, the collar 41 may first be fixed in the desired position by tightening the set screws 45 therein; then the entire panel and desk arrangement may be assembled, locating the depending portions of the lower brackets 31 within the annular channel formed by the lower collar 41, after which the upper collar 40 is slipped down over the upperly extending portions of the

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upper brackets 30 and secured in place by tightening the set screws 45 therein. Once the upper collar 40 is secured in place, the panels 10-13 are locked onto the post 14, so that they cannot be moved vertically unless the entire space dividing assembly is lifted off the floor. The space dividing assembly is normally held in place on the floor by its own weight and yet, if desired, the assembly can be moved by sliding it over the floor, without disassembling it.

In FIG. 11, there is illustrated a modified mounting assembly adapted to fit on the upper end of the support post 14 so as to serve both as the mounting collar for the swivel brackets and as an end cap for the post 14. The brackets 60 and 61 that are secured to the upper edges of the panels 62 and 63 in FIG. 8 are identical to the brackets 30 and 31 described previously in the arrangement of FIG. 1. However, in the modified embodiment illustrated in FIG. 8, the upper collar is formed by an end cap 64 having an indented central portion 65 which fits downwardly into the open upper end of the post 14 so as to center the cap 64 on the post. The annular rim 66 of the cap 64 is spaced away from the post 14 so as to form an annular channel 67 similar to the channel 44 formed by the collar 40 described previously. This annular channel 67 receives the upperly extending legs of the swivel brackets 60 and 61 which are complementally formed with respect to the post 14 so that the brackets 60 and 61 may swivel around the post 14 within the annular channels 67. To secure the end cap 64 to the post 14, a bolt 68 extends downwardly through the indented central portion 65 of the cap 64 and on through a rubber plug 69 and a metal washer 70. The cap 64, the bolt 68 and the washer 70 are assembled before the cap is placed in position on the post 14, and a nut 71 is threaded onto the shank end of the bolt 68 to hold the assembly together. After the assembly is positioned on the upper end of the post 14 with the rubber plug and the metal washer disposed within the post 14, the bolt 68 is tightened, thereby pressing the rubber plug 69 outwardly against the inside walls of the post 14 to hold the entire end cap assembly firmly in place on the end of the post 14.

In FIGS. 12 and 13 there is illustrated a modified swivel bracket 80 which is adapted to automatically position the space dividing elements secured thereto when a plurality of the brackets are mounted on the same post. Thus, the short leg 81 of the bracket, which is complementally formed with respect to the outside surface of the post 14, includes a pair of ears 82 and 83 extending in the circumferential direction from opposite sides of the bracket so as to fill a 90-degree segment of a circle projected from the contoured surface of the bracket. Consequently, when four such brackets are mounted on a common post, none of the brackets can be moved angularly with respect to any of the other brackets, although it is still possible to rotate all four brackets together. Consequently the four brackets are automatically positioned with respect to each other, but the entire assembly may still be rotated about the post 14 to provide the desired angular orientation of the space dividing elements mounted thereon.

I claim as my invention:

1. An interior space divider comprising the combination of a central post of circular cross-section adapted to be supported on the floor, a plurality of space dividing elements, a pair of mounting brackets secured to upper and lower portions of each of said space dividing elements, and mounting means fitted on said post and adapted to receive said mounting brackets to mount said space dividing elements on said post, said mounting means being adjustable along the axis of said post to ac-

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commodate brackets with different spacing and to permit adjustment of the vertical positions of said brackets, said mounting means and said brackets being adapted to permit pivotal movement of said brackets relative to said post for adjusting the angular positions of said space dividing elements.

2. An interior space divider as set forth in claim 1 wherein the lowermost edge of each of said space dividing elements is spaced a substantial distance above the floor.

3. An interior space divider as set forth in claim 1 wherein each of said space dividing elements includes a depending leg adapted to be supported on the floor a substantial distance away from said central post.

4. An interior space divider as set forth in claim 1 in which at least one of said space dividing elements has a vertical edge extending longitudinally along the surface of said central post, and a channel member is secured to said vertical edge with at least a portion of the surface of said channel member facing said post being complementally formed with respect to the surface of said post to permit pivotal movement of said channel member relative to said post while blocking views between the post and said vertical edge.

5. An interior space divider as set forth in claim 1 wherein said mounting means comprise a pair of collars.

6. An interior space divider as set forth in claim 5 wherein each collar includes a first annular section adapted to fit over said post and a second annular section spaced radially away from said post so as to form an annular channel between said second annular section and said post for receiving said mounting brackets while permitting displacement of said brackets within said annular channel for adjusting the angular position of said brackets around said post.

7. An interior space divider comprising the combination of a central post adapted to be supported on the floor, a plurality of space dividing elements at least one of which has a vertical edge extending longitudinally along the surface of said central post, mounting means on said central post and said space dividing elements for pivotally mounting said elements on said post to permit adjustment of the angular positions of said elements relative to said post, and a channel member secured to said vertical edge with at least a portion of the surface of said channel member facing said post forming a longitudinal slot for receiving a decorative strip and also being complementarily formed with the surface of said post to permit pivotal movement of said channel member relative to said post while blocking views between the post and said vertical edge, the mounting means on said post being adjustable along the axis of said post to accommodate space dividing elements of different dimensions and to permit adjustment of the vertical position of said elements.

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U.S. Cl. X.R.

52-65, 73, 239, 242, 281, 498