# United States Patent [19]

**Lebowitz**

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## [54] SPACE DIVIDER SYSTEM


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[52] **U.S. Cl.**.....**160/135**, 160/351, 135/158 Q

[51] **Int. Cl.**.....**A47g 5/00**

[58] **Field of Search**.....160/135, 351; 135/15 PQ; 52/64, 122, 127, 239, 584; 287/20.924, 20.92 C, 14, 96, 99, 101; 248/159; 211/47, 86, 163, 169; 40/68, 125 R, 125 H, 145



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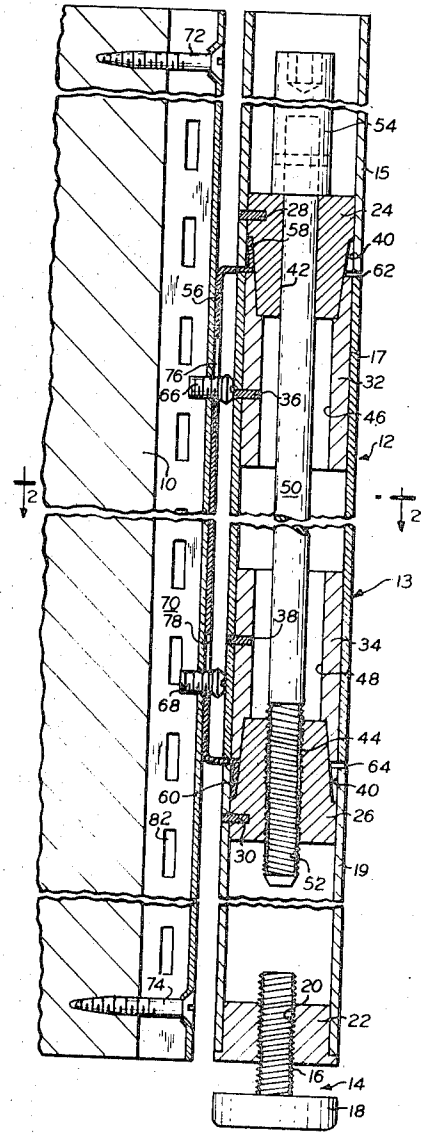
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[57] **ABSTRACT**

A corner post assembly for connecting panels or dividers to form a space divider system. The panels terminate in a bracket which is attached to the post and is slidably rotatable therewith permitting the panels to form any desired angle with adjacent panels.


**5 Claims, 4 Drawing Figures**



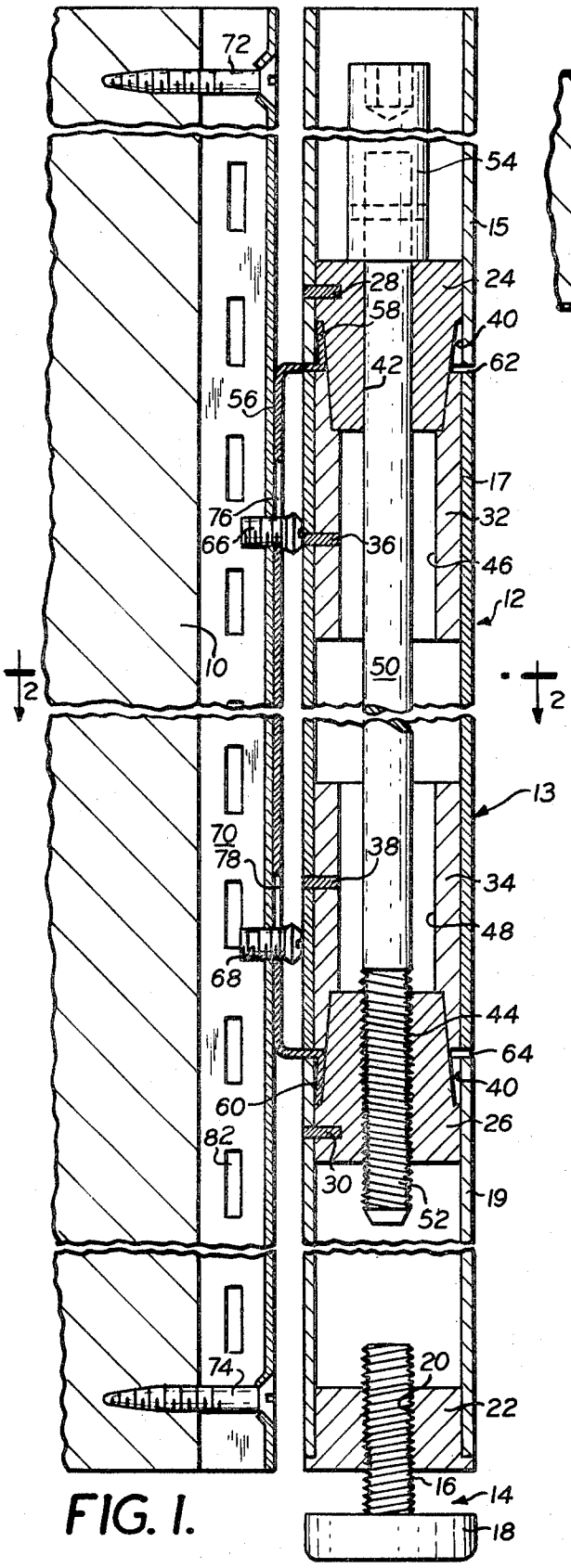



FIG. 1.

FIG. 2.

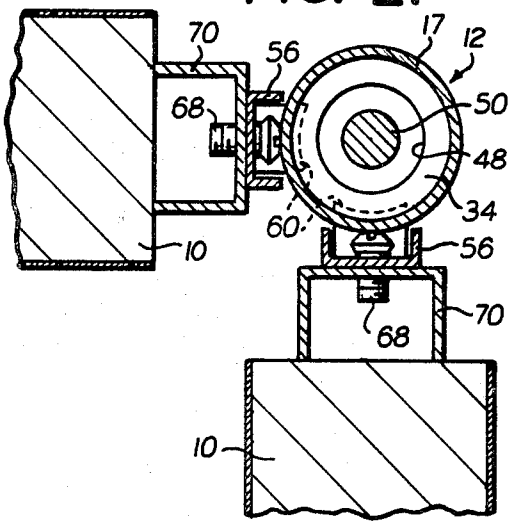
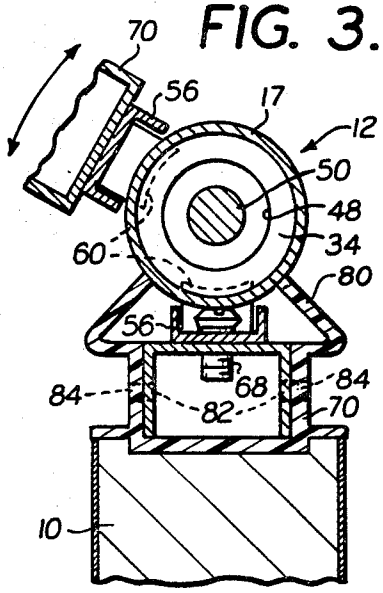



FIG. 3.




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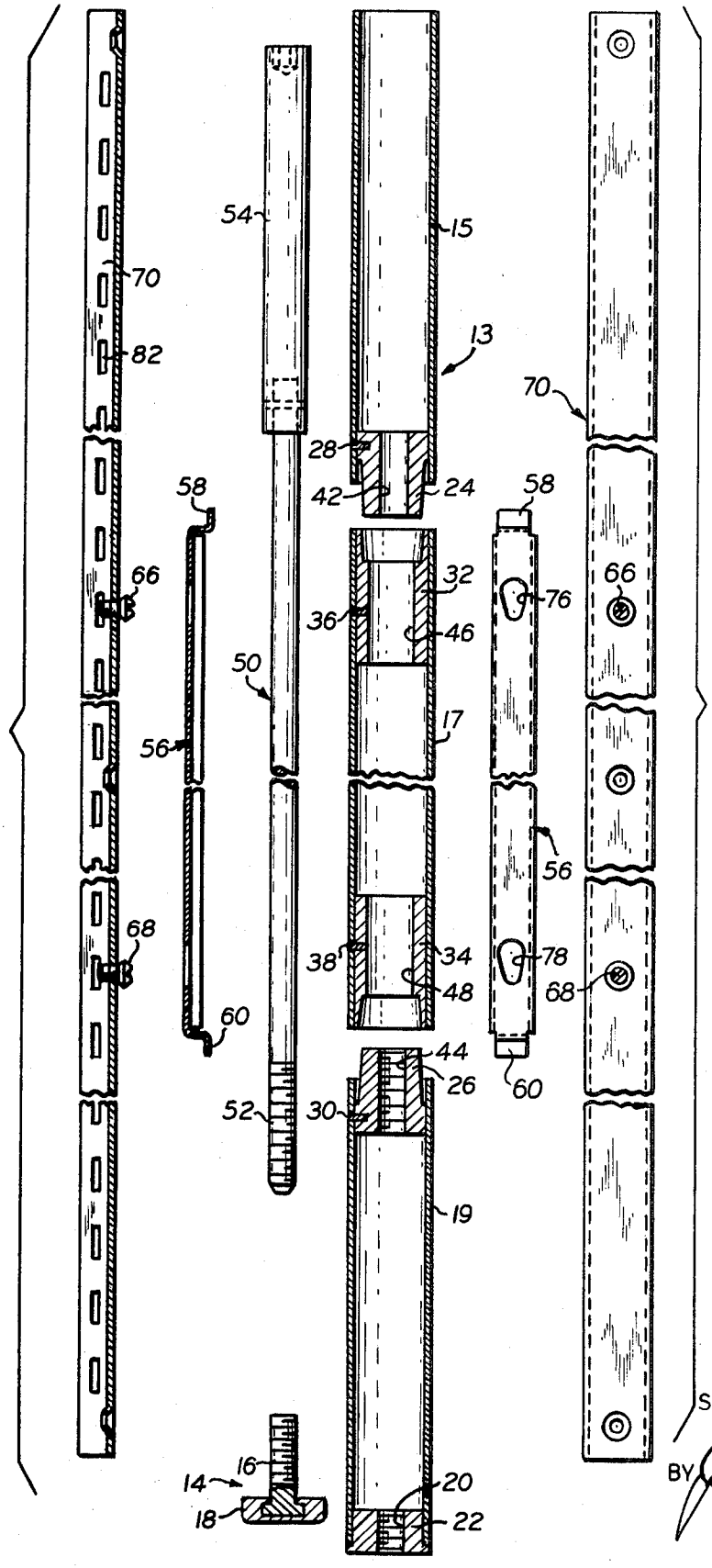



FIG. 4.

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# SPACE DIVIDER SYSTEM

## BACKGROUND OF THE INVENTION

This invention relates to a free standing space divider system, and more particularly, to such a system also adapted to have furniture and the like attached thereto.

In recent years, increasing numbers of buildings have been constructed using a different approach from those previously employed. Specifically, in the past, buildings have been erected with internal stationary walls and the like, which are relatively permanent. When changes and different floor space arrangements were to be made, the stationary walls were demolished and new permanent ones installed. With the transiency of modern corporations such an approach to space utilization is both time consuming, complex and expensive.

Modern office buildings and schools are generally built with only structural walls being permanent. The space is rented or sold, and the occupant creates the floor space arrangement most suited to his needs. Space divider systems exist which are light- in weight, easily assembled and broken down, and relatively versatile. Although these systems represent a significant improvement, they are constricted in the variety of possible space arrangements. Most of these systems have the interconnecting contiguous wall panels arranged to be either planar or orthogonal. This limitation serves to hinder the designer who is attempting to integrate the design of the space divider system into the total work environment. There may be requirements for the walls to be at acute or obtuse angles with respect to contiguous walls, but such configurations cannot be achieved with present systems. Further, other systems exist in which adjacent panels may be at fixed angular relationships, but these fixed relationships cannot be varied.

An object of the present invention is to provide an improved space divider system.

Another object of the present invention is to provide a space divider system which is easy to break-down and assemble.

Still another object of the present invention is to provide a system in which the walls thereof may form any desired angle with contiguous walls.

Another object of the present invention is to provide a space divider system which is capable of being used as supports for furniture components such as desks, tables and the like.

Still another object of the present invention is to provide a space divider system capable of being assembled by unskilled workers.

Another object of the present invention is to provide a space divider system which is relatively inexpensive to manufacture, yet durable and attractive.

Other objects, advantages and features of the present invention will become more apparent from the following description.

## SUMMARY OF THE INVENTION

In accordance with the principles of the present invention, the above objects are accomplished by providing a space divider system comprising free standing wall systems or dividers terminating in a common post assembly. The post assembly is provided with pivotable support brackets capable of moving in guides or slots of the post assembly. The guides or slots are formed by cooperating male plug and female receptacle members axially aligned which are loosely held together by an axial pin or tie rod passing through these members. The guides or slots are formed by the circumferential clearance between the male and female members, and once the proper angular setting is achieved for the support bracket, the tie rod is secured in place.



A threaded stud, fastened to the component hanger which in turn is screwed to the wall edge, drops into keyhole slots in the support bracket and by cam action pulls the wall into the post, thereby securing the whole assembly. It can be seen that this total assembly procedure is relatively simple and can be accomplished by unskilled workers. The swinging or rotating bracket feature enables any angular relationship to be chosen since the bracket freely moves in the guide.

## IN THE DRAWINGS

FIG. 1 is a sectional view through the corner post assembly of the present invention.

FIG. 2 is a top view of the corner post assembly connecting two panel members in an orthogonal manner.

FIG. 3 is a top view of the corner post assembly connecting two panel members at an obtuse angle.

FIG. 4 is an exploded view of the members of the corner post assembly.

## DETAILED DESCRIPTION

Referring to the figures, a space divider system is illustrated which provides significant advantages over prior art systems. The system includes panels 10 of conventional construction terminating at their edges at a common post assembly 12. The panels may be made of solid wood finished with a plastic coating such as polyvinyl chloride. Other materials such as wood, plastic and metal or any combination thereof may be used to form the panel. The panels may be of any desired height and thickness and are capable of standing freely. Each panel is connected to the common post assembly in a manner to be described hereinafter.

The post assembly 12 is provided with sectional lengths of tube 13 co-axially aligned which are generally cylindrical in shape and terminate in a leveling foot 14. The leveling foot includes a threaded shank section 16 embedded in a disk-like seat or pad 18, the bottom of which rests on the floor. The seat or pad 18 is, preferably, made of a durable material such as high density polypropylene. The upper portion of the threaded shank 16 communicates with a threaded bore 20 formed in a cylindrical plug member 22 which is secured in the bottom end of the tube 13 by a swaging process. By rotating the leveling foot 14 in the recess 20, minor adjustments are made for uneveness in the surface of the floor.

Referring particularly to FIGS., 1 and 4, the tube 13 includes upper, middle and lower sections 15, 17 and 19, respectively and houses the parts of the post assembly. Upper and lower plug members 24 and 26, respectively are axially secured in the upper and lower portions of the tube 13, respectively, by a swaging process or the like. Dowel pins 28 and 30, are connected to plugs 24 and 26, respectively, to lock the plug in position in the tube 13. Upper and lower collar members 32 and 34, adapted to communicate with upper and lower plugs 24 and 26 respectively are axially secured in the tube 13 by means of a swaging process and are locked therein by means of dowel pins 36 and 38, respectively. The plug members 24 and 26 are inwardly tapered thus forming a space between the inner surface 40 of the

tube **13** and the tapered surfaces of the plugs. Axially aligned bores **42, 44, 46** and **48** in upper and lower plugs and collars **24, 26, 32** and **34,** respectively allow a tie rod or connecting means **50** to pass therethrough. The tie rod is threaded at its lower end **52** which is adapted to communicate with the threaded bore **44** in lower plug member **26.** The tie rod is completely enclosed within the tube **13** and is provided with a suitable head **54** capable of communicating with and being turned by a suitable wrench or other device. A support bracket **56** terminates in Z return members **58** and **60** at the upper and lower ends which are adapted to fit through guide means or slots **62** and **64** formed between the middle **17** and upper **15** and middle **17** and lower **19** sections of the tube, respectively.

The panel member **10** is provided with a slotted U-channel **70** and a longitudinal cap member **80,** communally joined along the vertical edges of the panel **10** by an upper and lower screw **72** and **74** respectively, and a middle screw (not shown). A pair of hanging studs **66** and **68,** or the like, are pre-fastened to the U-channel **70.**

The panel member **10** is attached to the post assembly **12** by prior placement of the bracket **56** into the loosely assembled post sections. When the desired angular setting for the bracket is achieved, the tie rod **50** is tightened locking the bracket **56** into place. Hanging studs **66** and **68** are dropped into respective keyway slots **76** and **78** in the bracket **56** and wedge lock in position, securing the connection between the panel member **10** and the post assembly **12.**

An alternate attachment between the panel member **10** and the post assembly **12** is achieved by eliminating the hanging studs **66** and **68** and pre-fastening the bracket **56** in the slotted U-channel **70.** In this manner the "Z" returns at the top and bottom of the bracket **56** are placed in the loosely assembled post **12** in the desired angular setting and tie rod **50** is tightened locking the connection between the panel member **10** and the common post **12.**

It may thus be seen that the common post assembly of the present invention may be easily and quickly assembled. A plurality of support brackets may be fixed to a common post with each supporting and holding a respective panel in a desired angular position. Any angular position may be chosen without restriction (see FIGS. **2** and **3**) since there are no fixed angular relationships in the common post assembly configuration. Thus, the angular position of the panel is continuously pivotably movable with respect to the post assembly. Although the pole or tube sections may be chrome plated, it is preferable to provide a more decorative finish for the pole assembly. To that end, an extruded cap **80,** (see FIG. **3**) preferably of plastic, is placed around the slotted U-channel between the edge of the panel and the common post. This decorative cap may take on any desired appearance and may blend with the appearance of the panel.

Where desired, the space divider system of the present invention may include panels which are suitable to be used as supports for such furniture as desks, bookcases and tables. The slotted U-channel is provided with a plurality of slots **82** in the leg members and the plastic extruded cap is also provided with similar slots **84** which align with those of the channel. Suitable hanger clips or the like may be connected to the slots to support the above-mentioned type of furniture.



It will thus be seen that the objects set forth above, among those made apparent from the preceding description, are efficiently attained and, since certain changes may be made in the above article without departing from the scope of the invention, it is intended that all matter contained in the above description and shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

I claim:

**1.** A space divider system including panels and at least a common post assembly, said panels being connected to said common post assembly and said common post assembly comprising a support bracket and a guide means, said panel being connected to said support bracket, said support bracket continuously pivotably movable in said guide means enabling said panel to be placed in a predetermined angular position; said post assembly formed of an upper, middle, and lower tubular section, an upper and lower collar member, said upper and lower collar members being secured within said middle tubular section, an upper plug member, said upper plug member being secured within said upper tubular section, a lower plug member, said lower plug member being secured within said lower tubular section, said upper plug member adapted to mate with said upper collar member and said lower plug member being adapted to mate with said lower collar member, a tie rod connecting the upper, middle, and lower sections, said guide means being formed between said upper and middle sections and said middle and lower sections.

**2.** A space divider system as set forth in claim **1,** wherein said support bracket is provided with keyway hole means, projection means, said projection means being secured to said panel and adapted to engage said keyway hole means attaching said panel to said support bracket.

**3.** A space divider system as set forth in claim **2,** said post assembling including a U-channel, said U-channel being secured to said panel and said projection means being secured to said U-channel.

**4.** A space divider system as set forth in claim **3,** wherein said U-channel is provided with a plurality of slots.

**5.** A space divider system as set forth in claim **3,** said post assembling being provided with a longitudinal cap member, said cap member being connected between said tubular sections and said panel covering said post assembly.

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