

[54] MODULAR ROOM DIVIDER

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Related U.S. Application Data

[63] Continuation of Ser. No. 130,227, April 1, 1971, abandoned.

[52] U.S. Cl. 160/135, 160/329 R, 160/351, 211/178 R

[51] Int. Cl. A47g 5/00

[58] Field of Search 160/135, 229 R, 351; 16/163, 170; 35/60, 64; 40/102, 125 H; 46/31; 52/36, 64, 70, 71, 582, 615, 624; 211/148, 149, 169, 177, 178 R; 312/111, 258

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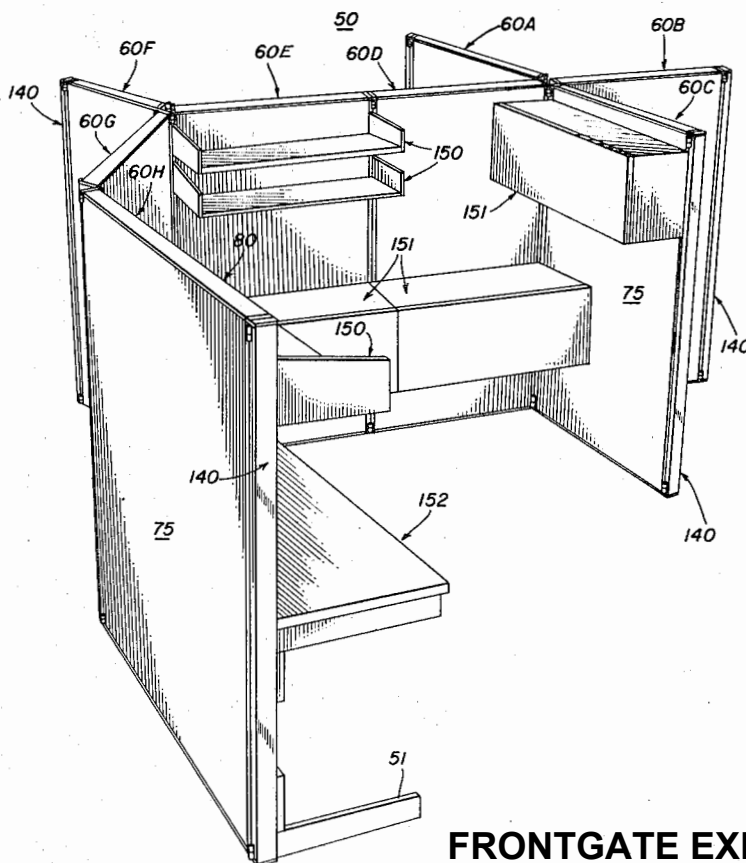
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[57] ABSTRACT

A modular room divider comprises a plurality of inter-connected divider modules, each module including an upright panel body having spaced-apart outer side surfaces and panel end members releasably secured to the opposite ends thereof, each end member having a vertical row of mounting openings in each of the outer side surfaces thereof for mounting accessory equipment thereon, each end member having upper and lower pairs of hinge members thereon with the hinge members of each pair being respectively disposed adjacent to the outer side surfaces of the panel body, each of the hinge members of one pair having a pintle and each of the hinge members of the other pair having a socket, each pintle on one end member being constructed and arranged complementary to a socket on the other end member, whereby each module can be pivotally coupled to as many as four other adjacent modules; support legs and levelers are also disclosed and terminal members are provided for covering the hinge members at the free ends of the modules and terminating them in smooth edges.

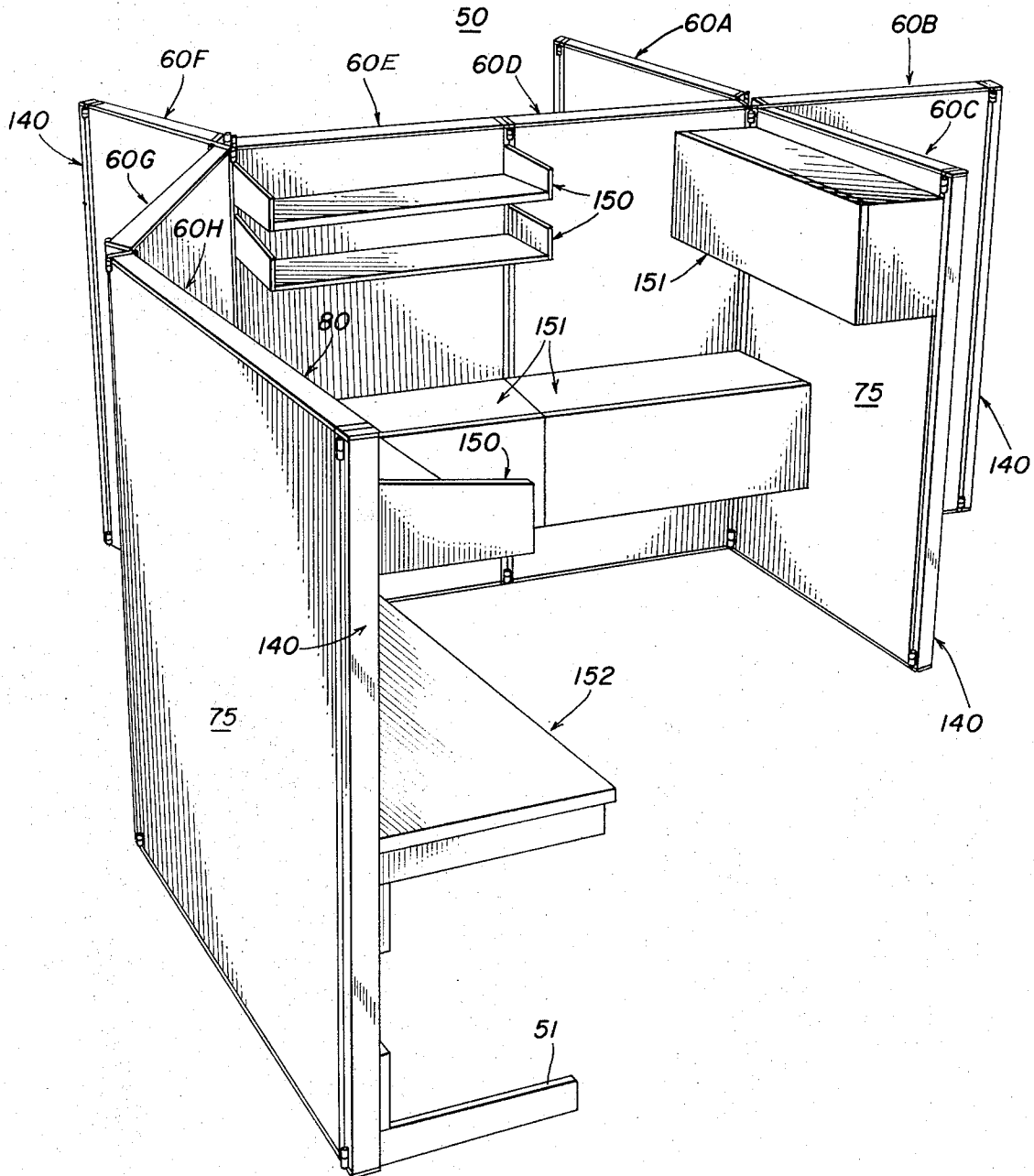
13 Claims, 16 Drawing Figures



FRONTGATE EXHIBIT 1025

Frontgate v. Richell, IPR2020-00210

FIG. 1



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FIG. 2

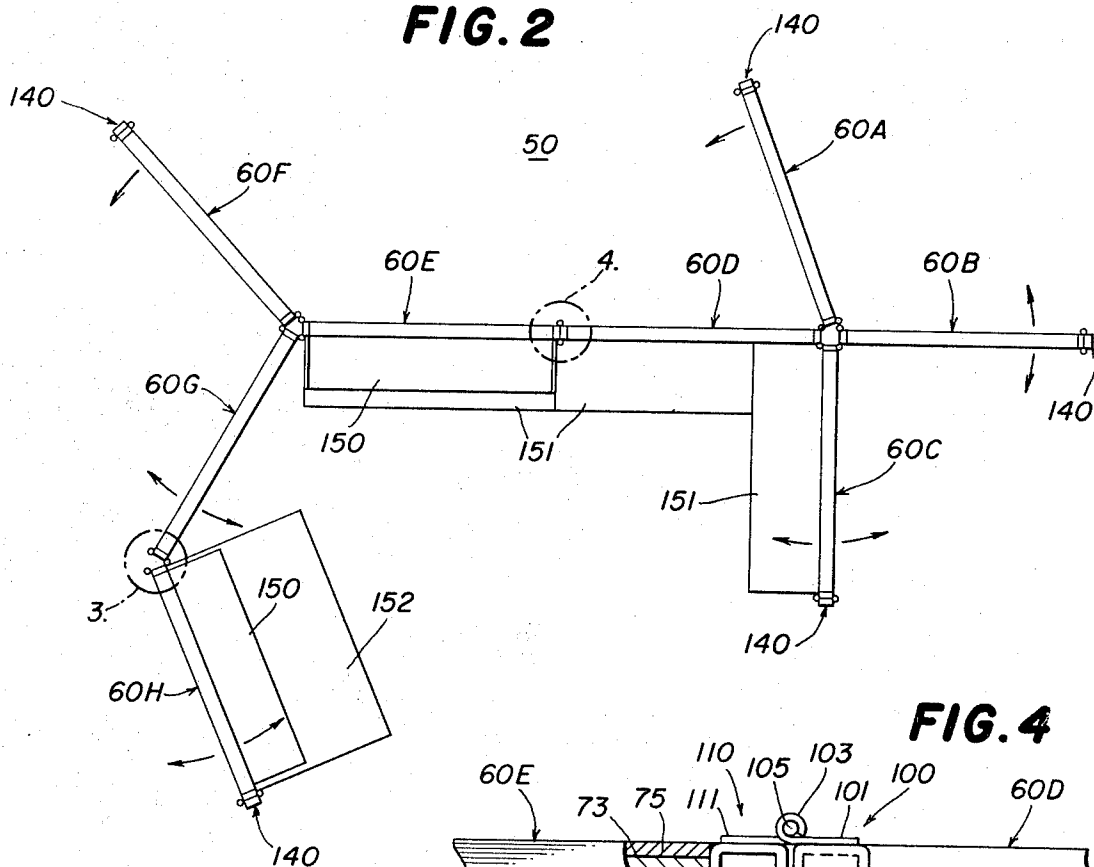


FIG. 3

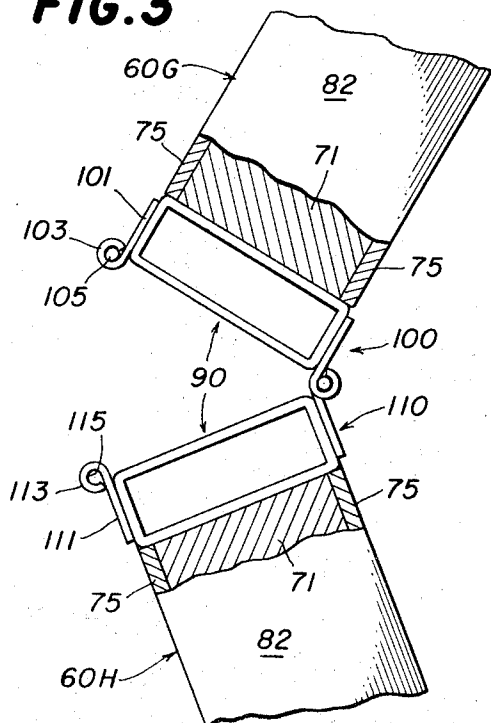


FIG. 4

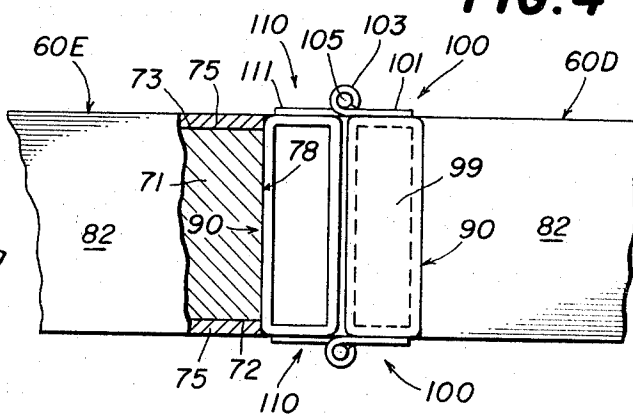


FIG. 5

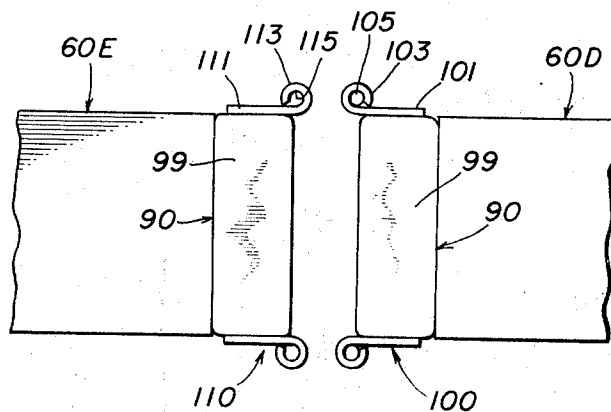


FIG. 6

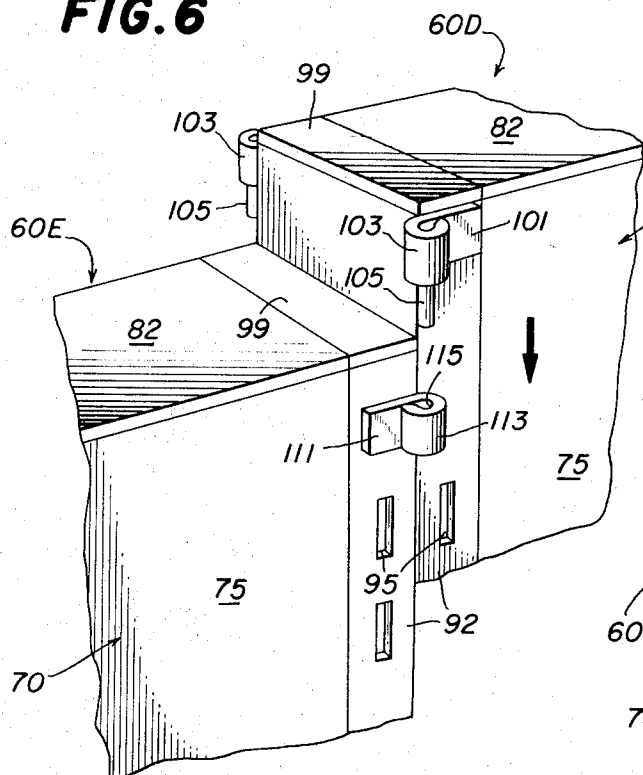


FIG. 7

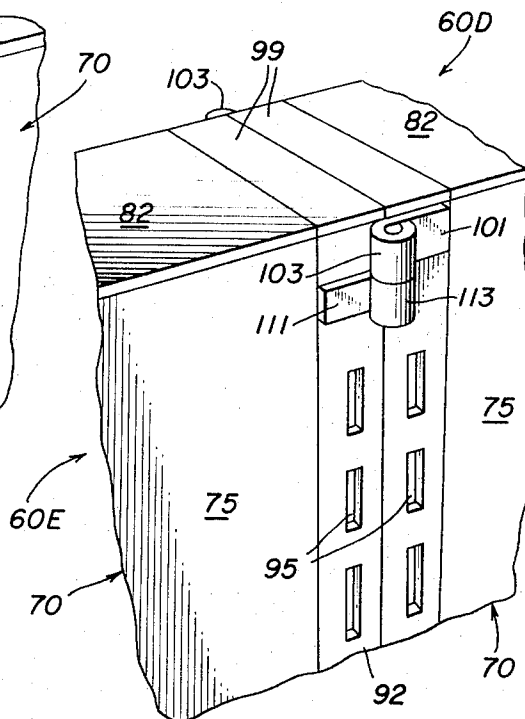


FIG. 8

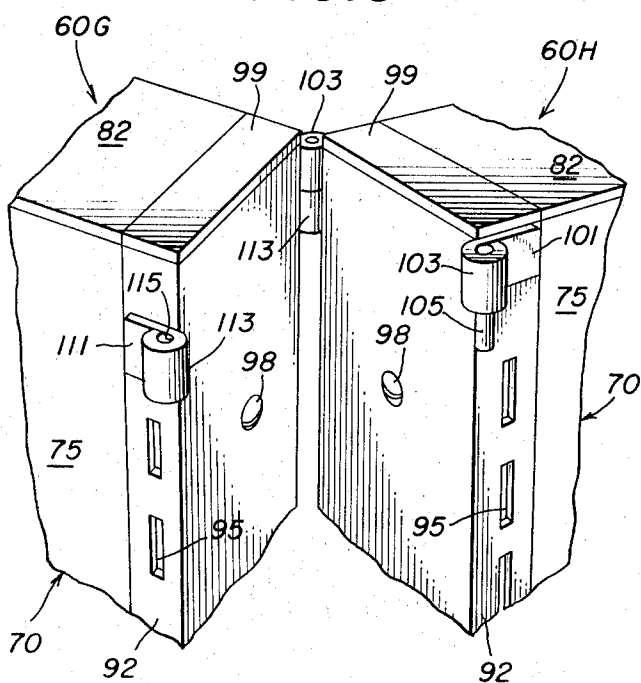


FIG. 9

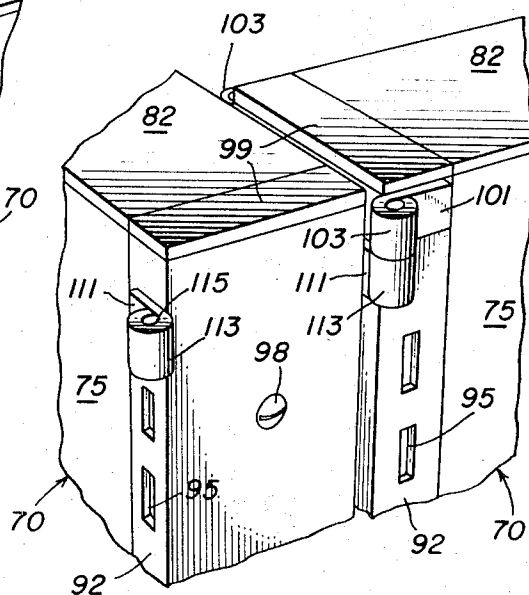


FIG. 10

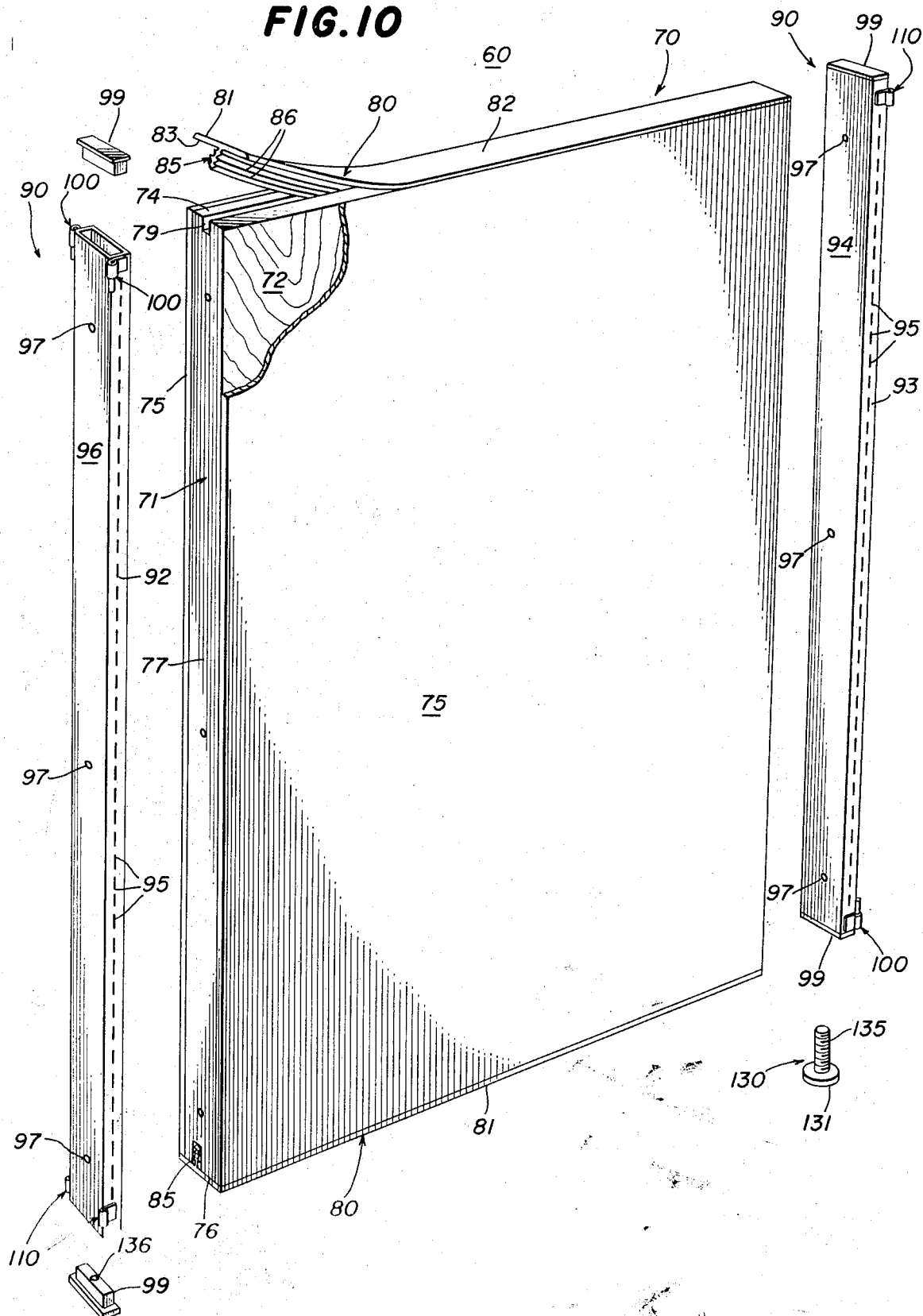


FIG. 11

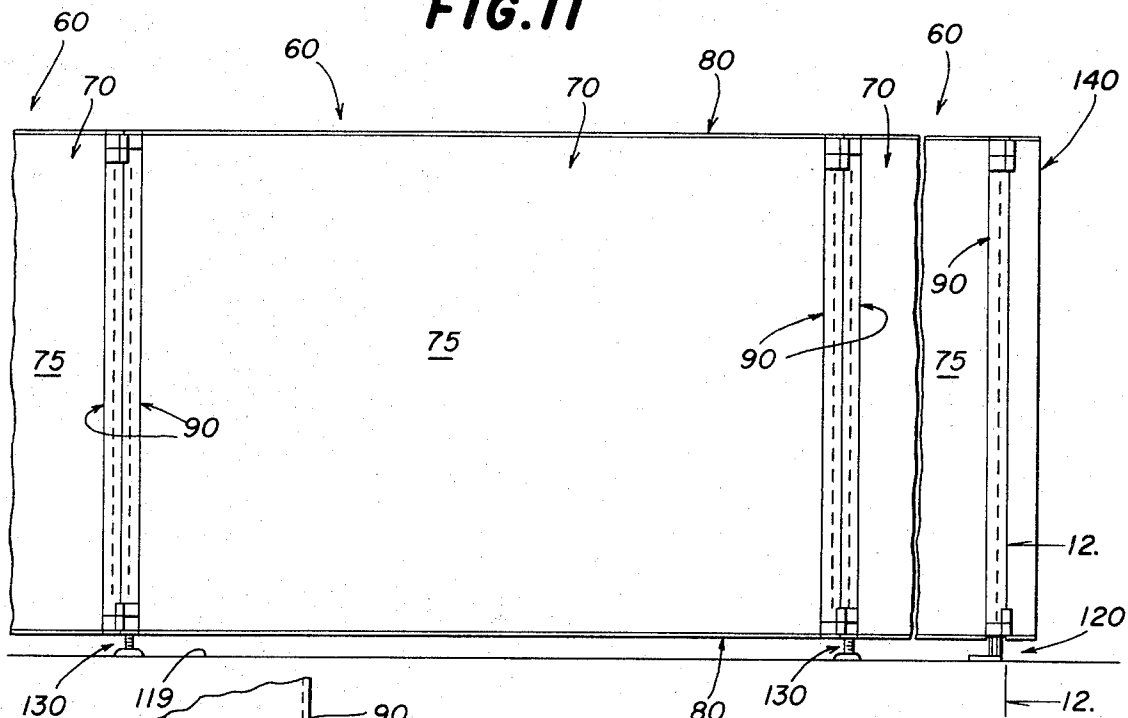


FIG. 12

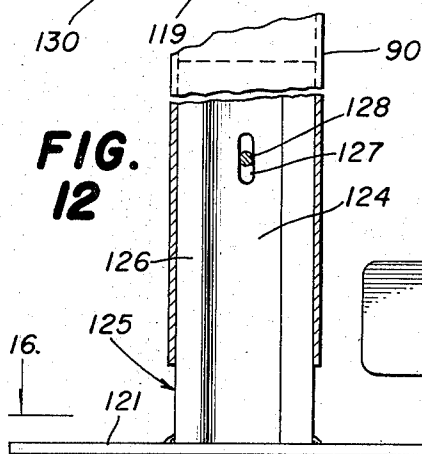


FIG. 16

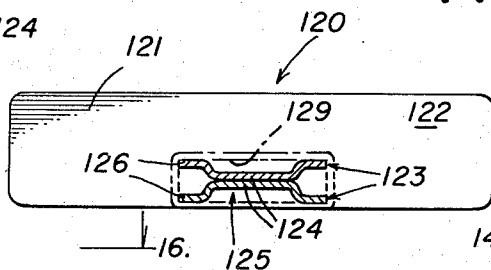


FIG. 14

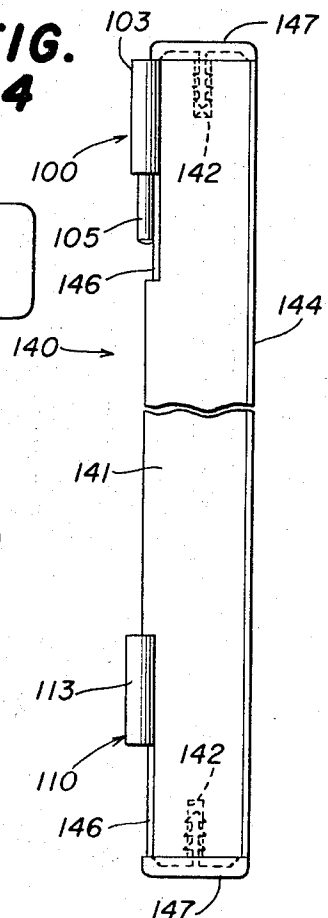


FIG. 13

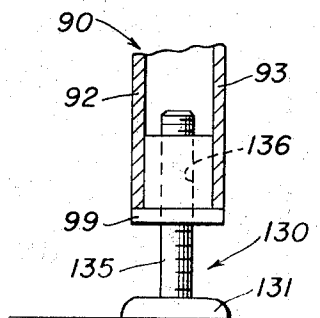
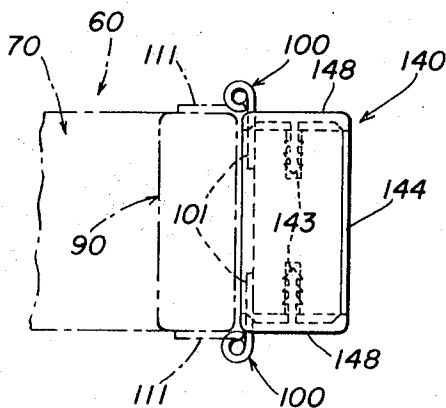


FIG. 15



MODULAR ROOM DIVIDER

This a continuation of application Ser. No. 130,227, filed Apr. 1, 1971, now abandoned.

The present invention relates to room dividers and, more particularly, to a modular room divider specially adapted for use in an office.

It is a general object of this invention to provide room divider modules which may be quickly and easily interconnected to assemble a modular room divider which can be arranged in numerous different configurations.

It is an important object of this invention to provide a modular room divider comprising a plurality of interconnected divider modules, each of the divider modules including an upstanding panel and two sets of coupling members, the two sets of coupling members being respectively fixedly mounted on the panel adjacent to the opposite ends thereof, each of the sets of coupling members including two spaced-apart coupling members respectively fixedly disposed adjacent to the two spaced-apart outer side surfaces of the panel, each of the coupling members being constructed and arranged complementary to a corresponding coupling member on an adjacent module for coupling engagement therewith to provide a pivotal coupling therebetween, whereby each divider module may be simultaneously pivotally coupled to as many as four other divider modules to form the room divider and to accommodate arrangement thereof in numerous different configurations.

It is another object of this invention to provide a modular room divider of the type set forth wherein one of the sets of coupling members comprises a first set and the other set of coupling members comprises a second set, each of the hinge members in the first set being constructed and arranged complementary to one of the hinge members in the second set.

It is another object of this invention to provide a modular room divider of the type set forth, wherein at least one of the outer side surfaces of the panel has a plurality of spaced-apart mounting openings therein shaped and arranged for receiving mounting members of associated accessory equipment to support such equipment in any of several different positions on the module.

It is another object of this invention to provide a modular room divider of the type set forth, wherein each of the divider modules includes an upstanding panel body and two coupling assemblies respectively connected to the panel body at the opposite ends thereof, each of the coupling assemblies including an upright panel end member being connected to the adjacent end of the panel body and having two spaced-apart outer side surfaces respectively disposed in use adjacent to the outer side surfaces of the panel body, the mounting openings being formed in at least one of the outer side surfaces of the panel end member, and the sets of coupling members being respectively carried by the panel end members.

Still another object of this invention is to provide a room divider module for interconnection with associated like modules to form a modular room divider, the room divider module comprising an upstanding panel, two sets of coupling members respectively fixedly mounted on the panel adjacent to the opposite ends thereof, each of the sets of coupling members including two spaced-apart coupling members respectively fixedly disposed adjacent to the two spaced-apart outer

side surfaces of the panel, each of the coupling members being constructed and arranged complementary to a corresponding coupling member on an associated adjacent module for coupling engagement therewith to provide a pivotal coupling therebetween, whereby the divider module may be simultaneously pivotally coupled to as many as four different associated divider modules for forming a room divider which may readily be arranged in numerous different configurations.

It is another object of this invention to provide a room divider module of the type set forth, wherein one of the sets of coupling members comprises a first set and the other set of coupling members comprises a second set, each of the hinge members in the first set being constructed and arranged complementary to one of the hinge members in the second set.

It is another object of this invention to provide a room divider module of the type set forth, wherein at least one of the outer side surfaces of the panel has a plurality of spaced-apart mounting openings therein spaced and arranged for receiving mounting members of associated accessory equipment to support such equipment in any of several different positions on the module.

It is another object of this invention to provide a room divider module of the type set forth, wherein the panel has two openings at the bottom thereof respectively disposed adjacent to the opposite ends thereof, and further including a support pedestal including a horizontally extending base having a flat bottom surface for supporting the pedestal on an associated underlying support surface and an attachment leg secured to the base intermediate the ends thereof and extending vertically upwardly therefrom, the attachment leg being receivable in one of the openings in the panel for attachment thereto to support the panel in a stable upright position on the associated support surface.

It is another object of this invention to provide a room divider module of the type set forth, which includes an upstanding panel body and two coupling assemblies respectively connected to the panel body at the opposite ends thereof, each of the coupling assemblies including an upright hollow tubular panel end member connected to the adjacent end of the panel body and having two spaced-apart outer side surfaces respectively disposed in use adjacent to the outer side surfaces of the panel body, the mounting openings being formed in at least one of the outer side surfaces of the panel end member, the sets of coupling members being respectively carried by the panel end members, and the attachment leg being received in the lower end of the hollow end members.

Further features of the invention pertain to the particular arrangement of the parts of the modular room divider whereby the above-outlined and additional operating features thereof are attained. The invention, both as to its organization and method of operation, together with further objects and advantages thereof will best be understood by reference to the following specification taken in connection with the accompanying drawings, in which:

FIG. 1 is a perspective view of a modular room divider constructed in accordance with and embodying the features of the present invention, illustrating several of the possible types of interconnection between the divider modules and the mounting of several types of accessory equipment thereon;

FIG. 2 is a top plan view of the modular room divider illustrated in FIG. 1;

FIG. 3 is an enlarged fragmentary top plan view in partial section of the coupling junction designated by the numeral 3. in FIG. 2;

FIG. 4 is an enlarged fragmentary top plan view in partial section of the coupling junction designated by the numeral 4. in FIG. 2;

FIG. 5 is a top plan view of the coupling junction illustrated in FIG. 4, with the two adjacent modules shown separated from each other;

FIG. 6 is a fragmentary front perspective view of the coupling junction shown in FIG. 4, illustrating the manner in which the adjacent modules are moved into engagement with each other;

FIG. 7 is a view similar to FIG. 6, and showing the modules after they have been interconnected;

FIG. 8 is an enlarged fragmentary perspective view of the coupling junction of FIG. 3, as viewed from the left hand side thereof;

FIG. 9 is a view similar to FIG. 8, showing another type of pivotal interconnection between two adjacent modules;

FIG. 10 is an enlarged front perspective partially exploded view of a typical room divider module according to the present invention with a portion of the panel covering material broken away and with one of the finishing strips partially removed;

FIG. 11 is a fragmentary front elevational view of a portion of a room divider according to the present invention, illustrating the use of a support pedestal and leveler screws to support the module in a stable upright position on an underlying support surface;

FIG. 12 is an enlarged view in vertical section taken along the line 12-12 in FIG. 11, and illustrating the support pedestal;

FIG. 13 is an enlarged fragmentary view in vertical section of one of the panel end members of the present invention, illustrating the connection of a leveler screw thereto;

FIG. 14 is a front elevational view of a terminal member for use in the present invention with a portion thereof removed;

FIG. 15 is a top plan view of the terminal member of FIG. 14, illustrating the orientation thereof when coupled to an associated module; and

FIG. 16 is a view in horizontal section of the support pedestal, taken along the line 16-16 in FIG. 12.

Referring now to FIGS. 1 and 2 of the drawings, there is illustrated a modular room divider, generally designated by the numeral 50, and comprising a plurality of interconnected room divider modules, respectively generally designated by the numerals 60A, 60B, 60C, 60D, 60E, 60F, 60G, and 60H. Referring also to FIG. 10 of the drawings, each of the room divider modules 60, comprises a panel body 70 and two panel end members 90, each of the panel end members 90 having a pair of male hinge members 100 and a pair of female hinge members 110 secured thereto. The panel body 70 preferably comprises a substrate 71 in the form of a solid rectangular parallelepiped of suitable material such as plywood, and having outer side surfaces 72 and 73, a top surface 74, a bottom surface 76 and a pair of end surfaces 77 and 78, all as viewed in FIG. 10. In use, the panel body 70 is normally arranged in an upstanding position, with the outer side surfaces 72 and 73 and the end surfaces 77 and 78 disposed substantially verti-

cally, and with the top and bottom surfaces 74 and 76 disposed substantially horizontally. The outer side surfaces 73 and 74 are each preferably covered by a layer of suitable covering material 75 which may be of any desired material, such as vinyl, but is preferably designed to perform both decorative and sound-deadening functions. Thus, the covering material 75 may comprise acoustical tiles, carpeting or any other suitable material. The top and bottom surfaces 74 and 76 of the substrate 71 are each provided with longitudinally extending grooves 79 therein, each groove 79 being disposed substantially midway between the outer side surfaces 72 and 73 and extending from the end surface 77 to the end surface 78.

Secured to the panel body 70 at the top and bottom thereof are two identically constructed finishing strips, generally designated by the numeral 80, each of the finishing strips 80 including a thin flat base 81 having a flat outer surface 82 and an inner surface 83 and having a length substantially equal to the length of the top and bottom surfaces 74 and 76 of the panel substrate 71. Integral with the inner surface 83 of the base 81 and extending outwardly therefrom substantially normal thereto for a distance substantially equal to the depth of the groove 79 in an attachment tongue 85 having a plurality of teeth or serrations 86 on the opposite side surfaces thereof. The tongue 85 runs centrally of the base 81 the entire length thereof, the maximum lateral dimensions of the serrated tongue 85 being slightly greater than the width of the grooves 79 in the panel body substrate 71. The finishing strips 80 are preferably formed of an integral strip of resilient, flexible material for ease of handling and to accommodate insertion of the toothed flange 85 into the grooves 79. In use, the attachment tongue 85 is force-fitted into the groove 79 on the top or bottom surface of the panel body substrate 71 until the inner surface 83 of the finishing strip 80 contacts the adjacent top surface 74 or bottom surface 76 of the panel body substrate 71. When thus fixed in position on the panel body 70, the teeth 86 on the tongue 85 grippingly engage the sides of the grooves 79 and firmly hold the finishing strip 80 in position.

The panel end members 90 are identically constructed, whereby only the left-hand one of these end members 90, as viewed in FIG. 10, will be described in detail. The end member 90 is of generally hollow tubular construction, being substantially rectangular in transverse cross section, and having two side walls 92 and 93 and two end walls 94 and 96. The end walls 94 and 96 have a width substantially equal to the total thickness of the panel body 70, i.e., the thickness of the substrate 71 plus the thickness of the covering sheets 75. The end walls 94 and 96 are each provided with three spaced-apart aligned openings 97 therethrough for accommodating therein associated mounting screws 98 (see FIGS. 8 and 9) for securely fastening the end member 90 to the adjacent end surfaces 77 or 78 of the panel body 70. The end member 90 has a length substantially equal to the length of the end surfaces 77 and 78 of the panel body substrate 71 so that, when mounted in position thereon, the top and bottom edges of the end member 90 will be substantially flush with the top and bottom surfaces 74 and 76 of the panel body substrate 71. When thus secured in position on the substrate 71, the outer surfaces of the side walls 92 and 94 of the end member 90 are respectively substan-

tially coplanar with the outer side surfaces of the covering sheets 75 on the panel body 70. Each of the side walls 92 and 93 of the end member 90 is provided with a vertically aligned row of equidistantly spaced-apart mounting slots 95 therein, for a purpose to be described more fully hereinafter. The open top and bottom ends of the end member 90 are each closed by an end cap 99 which is received in and closes the adjacent end of the end member 90.

The end member 90 is provided at the upper end thereof with a pair of male hinge members 100 and at the lower end thereof with a pair of female hinge members 110. Referring now also to FIGS. 6 through 9 of the drawings, the male hinge members 100 are identically constructed and are respectively secured to the outer surfaces of the side walls 92 and 93 of the end member 90. Accordingly, only the front one of these hinge members 100, as viewed in FIG. 10, will be described in detail. The hinge member 100 includes an attachment flange 101 secured by suitable means to the outer surface of the side wall 92 of the end member 90 so that the upper edge of the attachment flange 101 is substantially flush with the upper edge of the side wall 92. Integral with and vertically coextensive with the attachment flange 101 and extending outwardly therefrom a slight distance beyond the outer surfaces of the outer end wall 96 and the side wall 92 of the end member 90, is a generally cylindrical knuckle 103 having fixedly secured thereto and extending downwardly therefrom a generally cylindrical pintle 105, which has a diameter slightly less than the outer diameter of the knuckle 103. The rear one of the male hinge members 100 is connected in like manner to the outer surface of the side wall 93 of the end member 90, with the knuckle 103 thereof extending outwardly a slight distance beyond the outer surfaces of the end wall 96 and the side wall 93 of the end member 90. Preferably, the hinge members 100 and the end member 90 are each constructed of metal, whereby the attachment flanges 101 may be welded to the end member 90.

Similarly, the female hinge members 110 are respectively secured to the side walls 92 and 93 of the end member 90 and are identically constructed, whereby only the front one of the hinge members 110, as viewed in FIG. 10, will be described in detail. The hinge member 110 is provided with a flat attachment flange 111 secured to the outer surface of the side wall 92 of the end member 90, with the bottom edge of the attachment flange 111 spaced above the bottom edge of the end member 90 a distance substantially equal to the vertical width of the attachment flanges 101 of the male hinge members 100. Integral with and vertically coextensive with the attachment flange 111 and extending outwardly therefrom a slight distance beyond the outer surfaces of the outer end wall 96 and the side wall 92 of the end member 90 is generally cylindrical knuckle 113 having an outer diameter substantially equal to the outer diameter of the knuckles 103 of the male hinge members 100. Extending axially through the knuckle 113 is a cylindrical opening defining a socket 115 which has a diameter slightly greater than the outer diameter of the pintles 105 on the male hinge members 100 and adapted to receive a pintle 105 therein to form a pivotal hinge coupling in standard fashion. In like manner, the outer one of the female hinge members 110 is secured to the outer surface of the side wall 93 of the end member 90, with the

knuckle 113 thereof extending outwardly a slight distance beyond the outer surfaces of the end wall 96 and the side wall 93 of the end member 90.

While the two end members 90 are identically constructed as described above, they are arranged on the panel body 70 in inverted relationship with respect to each other. Thus, the left-hand one of the end members 90, as viewed in FIG. 10, is arranged in an inserting configuration with the male hinge members 100 disposed at the upper end thereof and the female hinge members 110 disposed at the lower end thereof, to thereby define an inserting end of the module 60. Conversely, the right-hand one of the end members 90, as viewed in FIG. 10, is arranged upside down in a receiving configuration with the female hinge members 110 disposed at the upper end thereof and with the male hinge members 110 disposed at the lower end thereof, thereby to define a receiving end of the module 60. As will be observed in FIG. 10, when the end member 90 is disposed in this receiving configuration, the pintles 105 of the male hinge members 100 extend upwardly. This arrangement of the end members 90 on the panel body 70 facilitates the interconnection of a series of modules 60, all as will be described in detail below.

Referring now to FIGS. 11 through 13 of the drawings, the module 60 may be provided with a support pedestal 120 which includes a generally rectangular elongated base 121 and an upstanding attachment leg 125, the base 121 having a flat upper surface 122 and a flat lower surface 122A for contact with an underlying floor or other support surface 119. The attachment leg 125 comprises a pair of channel-shaped members 123, each of which includes flat side flanges 126 and a depressed center section 124. The channel-shaped members 123 are arranged back-to-back with the center sections 124 abutting each other as illustrated in FIG. 12, and preferably being welded together. The attachment leg 125 is secured at the bottom end thereof by suitable means, such as welding, to the upper surface 122 of the base 121. Preferably, the attachment leg 125 is positioned midway between the ends of the base 121 and adjacent to one side edge thereof. The center sections 124 of the channel-shaped members 123 are each provided with aligned elongated slots 127 therein. The attachment leg 125 is dimensioned to be receivable in one end of either of the panel end members 90 in telescoping relationship therewith, with the base 121 disposed laterally of the module 60 and extending outwardly well beyond the outer side surfaces of the module 60. In use, the bottom end cap 99 and the bottom one of the mounting screws 98 are removed from the lower end of one of the end members 90, and the attachment leg 125 may be inserted into the open lower end of the end member 90 until the slot 127 is disposed in alignment with the mounting screw openings to receive the bottom screw 98 therethrough. When thus secured in position the pedestal 120 supports the module 60 in a stable vertical position, the slot 127 permitting slight vertical adjustment of the attachment leg 125 in the end member 90 to vary the height at which the module 60 is supported above support surface 119 and maintain the module 60 level. It will be appreciated that the support pedestal 120 is particularly useful on the end ones of a tandem string of modules or for supporting a single module by itself.

In order to further stabilize the module 60 on the support surface 119, a leveler screw, generally designated

by the numeral 130, is provided at either end of each module 60. Each of the leveler screws 130 includes a flat enlarged circular base 131 and an elongated threaded shank 135, the threaded shank 135 being threadedly engaged with an internally threaded opening 136 in the bottom end cap 99 of each end member 90. In use, the leveler screw 130 may be extended to the desired length for engagement with the underlying support surface 119 to maintain the bottom edge of the module 60 substantially horizontal despite any unevenness in the support surface 119.

It will be appreciated that when two or more of the modules 60 are interconnected, one end of each of certain of the modules 60 will be free or unconnected, whereby the hinge members 100 and 110 thereof will project outwardly beyond the outer side surface of the adjacent end member 90, creating unsightly and possibly hazardous obstructions. Accordingly, there are provided terminal members, generally designated by the numeral 140, for covering these exposed free ends of the modules 60. Referring to FIGS. 14 and 15 of the drawings, the terminal member 140 preferably comprises a solid elongated body 141 which is substantially rectangular in transverse cross section and which has a length equal to the vertical extent of the panel end member 90 and a thickness equal to the distance between the outer surfaces of the side walls 92 and 93 of the end member 90. The body 141 is provided with grooves 142 in the top and bottom surfaces thereof extending from the front to the rear thereof for receiving therein the serrated tongues of finishing strips 147 which are identical, except as to length, to the finishing strips 80. The outer end surface of the body 141 has secured thereto a suitable covering sheet 144 which may be of vinyl or any other suitable material. The inner end surface of the body 141 is provided with grooves or recesses 146 therein adjacent to the upper and lower ends thereof for respectively accommodating therein male hinge members 100 and female hinge members 110.

More particularly, a pair of male hinge members 100 is provided at the upper end of the body 141, the hinge members 100 being respectively disposed adjacent to the outer side surfaces of the body 141, and a pair of female hinge members 110 are disposed adjacent to the lower end of the body 141 with the hinge members 110 also being respectively disposed adjacent to the outer side surfaces of the body 141. The attachment flanges 101 of each of the male hinge members 100 are secured by suitable means to the recessed portion 146 of the inner end surface of the body 141, with the knuckles 103 of the hinge members 110 respectively extending inwardly a slight distance beyond the inner end surface of the body 141 and outwardly a slight distance beyond the outer side surfaces of the body 141, as illustrated in FIGS. 14 and 15. The upper edges of the attachment flanges 101 are disposed substantially flush with the upper edge of the body 141. In like manner, the female hinge members 110 are disposed with the attachment flanges 113 thereof secured by suitable means to the recessed portion 146 at the lower end of the inner end surface of the body 141, with the bottom edges of the attachment flanges 113 being disposed above the bottom edge of the body 141 a distance substantially equal to the vertical extent of the attachment flanges 101 of the male hinge members 100.

Thus, in use, the pair of male members 100 and the pair of female hinge members 110 on the terminal member 140 are respectively engageable with the female and male hinge members at the right-hand end of a module 60, as viewed in FIG. 15, for effectively covering the free end of the module 60 and presenting the smooth surface 144 to passing pedestrian traffic. In this manner, there is provided both a safe and esthetically pleasing termination to the free ends of the modules 60, with no sharp projecting surfaces which might snap passers-by. It will also be appreciated that the terminal member 140 might be adapted for establishing an anchor or attachment to a permanent wall.

It is a significant feature of the present invention that each of the modules 60 is adapted to have mounted thereon accessory equipment, such as shelves, cabinets and the like. More particularly, referring to FIGS. 1 and 2 of the drawings, it will be noted that the vertical rows of mounting slots 95 in each of the panel end members 90 are arranged to receive therein complementarily shaped mounting members (not shown) disposed on the rear surfaces of associated accessory equipment such as shelves 150, cabinets 151, tables or counters 152, etc., in an obvious manner. Each of these accessory articles preferably has a width substantially equal to the width of a module 60, with the mounting members arranged adjacent to the opposite ends of the accessory article. Thus, the modular room divider 50 of the present invention may be utilized not only to partition a room into any number of differently shaped subdivisions, but it also affords the simple furnishing of the subdivisions with module-mounted articles of furniture or other accessories.

The interconnection of modules 60 to assemble the modular room divider 50 will now be described in detail. Referring to FIGS. 1 through 9 of the drawings, it will be seen that the modules 60 may be interconnected in several different ways to form a wide variety of different configurations. First of all, referring to FIGS. 1 to 3 and 8, two modules 60 may be pivotally interconnected by coupling together only the hinge along one edge of each of the adjacent module ends. Thus, the hinge members along one edge of the inserting end of one module may be lowered into engagement with the hinge members along one edge of the receiving end of the other module. For example, the pintle 105 of the upper male hinge member 100 on the rear edge (as viewed in FIG. 8) of the inserting end of module 60H is lowered into the socket 115 of the upper female hinge member 113 on the rear edge of the receiving end of module 60G. Similarly, the socket 115 of the lower female hinge member 110 on the rear edge of the inserting end of the module 60H is lowered over the pintle 105 of the lower male hinge member 100 on the rear edge of the receiving end of the module 60G. The pivotal coupling thus formed between the modules 60G and 60H, as illustrated in FIGS. 2, 3 and 8, permits pivotal movement of the modules 60G and 60H with respect to each other through an angle of about 180°, between a straight-line configuration wherein the modules are disposed substantially in longitudinal alignment with each other and a side-by-side configuration wherein the modules are disposed substantially parallel to each other. It will, of course, be appreciated that, while the modules 60G and 60H have been illustrated as being interconnected along the rear edges thereof, (as viewed in FIG. 8), the interconnection could just as well be effected along

the front edges thereof in the same manner as described above.

While two modules 60 will normally be pivotally interconnected along common edges thereof, i.e., along the front or rear edges thereof as viewed in FIG. 8, so that they can pivot substantially into alignment with each other, as described above, it is also possible to pivotally interconnect the front edge of one module with the rear edge of an adjacent module, as illustrated in FIG. 9. This type of pivotal interconnection will permit the interconnected modules 60 to be pivoted with respect to each other through an angle of about 180°, between a first right-angle configuration wherein the end of one module abuts against the side of the other module and a second right-angle configuration wherein the end of the other module abuts against the side of the one module. This arrangement is useful to more effectively form right angle corners of divided portions of a room.

If it is desired to interconnect two adjacent modules 60 so as to prevent pivotal movement thereof with respect to each other, the modules may be interconnected along both the front and rear edges thereof, as illustrated by the interconnection between the modules 60D and 60E in FIGS. 2, 4, 6, and 7. In this type of interconnection, the adjacent modules are placed in longitudinal alignment with each other with the inserting end of module 60D adjacent to the receiving end of the module 60F, as shown in FIG. 6. The hinge members on the inserting end of the module 60D are then lowered into engagement with the hinge members on the receiving end of the module 60E, in the direction of the arrow in FIG. 6, to form the interconnection shown in FIG. 7. It will be noted that in this type of interconnection the hinge members on the front edges of the modules 60D and 60E are engaged with each other while the hinge members on the rear edges of the modules 60D and 60E are engaged with each other. Thus, the modules 60E and 60D are securely locked together in alignment with each other, thereby preventing any pivotal movement therebetween.

It will also be appreciated that the present invention permits the interconnection at a common junction of more than two modules 60. More particularly, a module may simultaneously be coupled to as many as four different modules, two at each end. For example, referring to FIGS. 1 and 2, three different modules 60E, 60F and 60G may be interconnected at a common junction in the manner illustrated. Thus, the hinge members along one edge of the inserting end of the module 60F are lowered into engagement with the hinge members along the rear edge of the receiving end of the module 60G, while the hinge members along one edge of the inserting end of the module 60E are lowered into engagement with the hinge members along the front edge of the receiving end of the module 60G. In this type of interconnection, both the modules 60F and 60G are pivotally movable with respect to the module 60F through angles of about 180°. Accordingly, this type of interconnection permits the modules 60E, 60F and 60G to be arranged in the Y configuration shown, or in a T configuration or any variation of either. It will, of course, also be appreciated that either or both of the modules 60F and 60G could be pivotally coupled to the module 60E in the manner illustrated in FIG. 9.

While the standard type of module illustrated in FIG. 10 will not permit three adjacent modules to be locked

together at a common junction, such an interlocking could be made possible by simply altering the hinge arrangement on one of the end members 60 of one of the modules 60. More particularly, if the positions of the upper and lower hinge members along the front edge (as viewed in FIG. 2) of the inserting end of the module 60E were reversed, so that they matched the positions of the hinge members at the receiving end of the module 60E, it will be apparent that after the module 60E is coupled to the module 60F in the manner described above, the hinge members on the inserting end of the module 60G could be lowered into simultaneous engagement with the modules 60E and 60F to form the interlocking junction.

As is illustrated in FIGS. 1, and 2, it is also possible in the present invention to interconnect four adjacent modules 60 at a common junction, such as the junction of the modules 60A to 60D. This type of interconnection is basically the same as the three module interconnection described above, but the module 60A is simply swung out sufficiently to permit the addition of module 60D to the chain in an obvious manner. It will be apparent that in this same manner any desired number of modules 60 may be interconnected at a common junction, generally as spokes of a wheel about a common hub, the pivotal interconnection of the modules permitting any desired angular spacing between the adjacent modules. It will also be appreciated that the four modules 60A through 60D could be securely locked together by simply lowering the hinge members on the inserting end of the module 60C into engagement with the hinge members along the front edges of the receiving ends of the modules 60B and 60D and by lowering the hinge members on the inserting end of the module 60A simultaneously into engagement with the hinge members on the rear edges of the receiving ends of the modules 60B and 60D.

While in the preferred embodiment of the invention, the module 60 will normally be constructed in the standard form illustrated in FIG. 10 for ease of manufacture, it will be readily appreciated that variations in this standard form could be made. Thus, as described above, different arrangements of the hinge members 100 and 110 could be effected on one or more of the end members 90. Even more simply, the standard end members 90 illustrated in FIG. 10 could be arranged in the same configuration (inserting or receiving) at both ends of the module 60 instead of in the opposite configuration illustrated in FIG. 10. Thus, for example, it is possible to arrange the end members 90 on both ends of the module 60E in the receiving configuration, so that the inserting ends of the modules 60F and 60G could simply be lowered into engagement with the left-hand end of 60E, as viewed in FIG. 2, thereby simplifying the assembly of the room divider 50. However, normally, the module 60 will be constructed in the standard form illustrated in FIG. 10, since such standardization produces obvious economies in production, inventory, etc.

It should be noted that, while for convenience reference has been made in this specification to the front and rear edges of the module 60, these terms are purely relative, since either side of the module 60 could be termed the "front" side, depending upon the arrangement of the module in a particular room divider. More particularly, referring to FIG. 10, it will be observed that the module 60 is bilaterally symmetrical with re-

spect to a plane disposed parallel to the outer side surfaces 72 and 73 of the panel substrate 71 and midway therebetween. In addition, it will be appreciated that the "inserting" and "receiving" ends of the module 60 shown in FIG. 10 may be reversed by simply inverting the module 60.

From the foregoing, it will be seen that there has been provided a novel modular room divider of simple and economical construction, which is characterized by ease and simplicity of assembly.

There has also been provided room divider modules having a unique arrangement of hinge members thereon to permit quick and easy assembly of a plurality of modules into an infinite number of different configurations. More particularly, the unique arrangement of coupling hinges permits each divider module to be simultaneously pivotally coupled to as many as four different adjacent divider modules, and also permits adjacent modules to be locked together so as to prevent pivotal movement thereof with respect to each other.

There has also been provided a room divider module having a support pedestal and leveling screws to support the panel module a predetermined distance above an underlying support surface, despite irregularities in such a surface.

There has also been provided a novel terminal member for attachment of the free ends of the modules comprising a module room divider, so as to provide a decorative and safe cover for the hinge members on these free module ends.

Finally, there has been provided a room divider module having mounting openings therein for supporting in different positions thereon various pieces of associated accessory equipment.

While there has been described what is at present considered to be the preferred embodiment of the invention, it will be understood that various modifications may be made therein and it is intended to cover in the appended claims all such modifications as fall within the true spirit and scope of the invention.

What is claimed is:

1. A modular room divider comprising a plurality of interconnected divider modules, each of said divider modules including an upstanding panel and two sets of hinge members, one of said two sets of hinge members being respectively fixedly mounted on said panel adjacent to each opposite side edge thereof, each of said sets of hinge members including two vertically spaced pairs of hinge elements, one of said vertically spaced pairs being female elements and the other of said pairs being male elements, the female elements at one side edge being horizontally aligned with the male elements at the other side edge and being located near the top of said panel, the others of said pairs of hinge elements being horizontally aligned and being located near the bottom of said panel, each of the vertically spaced pairs comprising a horizontally spaced pair of hinge elements respectively fixedly disposed adjacent to the two spaced-apart front and back surfaces of said panel, whereby one of said sets of hinge members is constructed and arranged complementary to the other of said sets of hinge members for coupling engagement to provide a pivotal coupling between adjacent modules, whereby each divider module may be simultaneously pivotally coupled at said two vertically spaced elevations to as many as two other divider modules at each side edge to form said room divider and to accommo-

date arrangement thereof in numerous different configurations.

2. The modular room divider set forth in claim 1, wherein each of the front and back surfaces of said panel is substantially rectangular with the opposite side edges thereof being disposed substantially vertically.

3. The modular room divider set forth in claim 1, wherein said panel has upper and lower surfaces each provided with a longitudinally extending groove therein, and further including upper and lower finishing strips for respectively covering the upper and lower surfaces of said panel, each of said finishing strips having a toothed attachment flange receivable in the adjacent groove for grippingly engaging said panel to securely hold said finishing strip thereon.

4. The modular room divider set forth in claim 1, and further including a plurality of terminal members equal in number to the free ends of the modules of said divider, each of said terminal members including an elongated body having two outer side surfaces spaced apart a distance equal to the spacing between the front and back surfaces of said panels, two spaced-apart hinge members respectively fixedly disposed adjacent to the two outer side surfaces of said terminal member, said hinge members being respectively constructed and arranged complementary to the hinge members on the free end of the adjacent module for engagement therewith, whereby the hinge members on the free ends of said modules may be covered and prevented from interfering with adjacent traffic.

5. The room divider module set forth in claim 1 and having two openings at the bottom of said panel respectively disposed adjacent to the opposite side edges thereof, a pedestal including a horizontally extending base having a flat bottom surface for supporting said pedestal on an underlying support surface and an attachment leg secured to said base intermediate the ends thereof and extending vertically upwardly, therefrom, said attachment leg being receivable in one of said openings in said panel for attachment thereto to support said panel a predetermined distance above an associated underlying support surface, whereby said divider module may be supported in a stable upright position on an underlying support surface by said support pedestal.

6. The room divider module set forth in claim 5, and further including an adjustable leveling member receivable in the other of said openings in said panel, said leveling member being extendable a variable distance below the bottom surface of said panel for engagement with the underlying support surface, whereby said leveling member cooperates with said support pedestal for maintaining said module in a substantially level upright position.

7. A modular room divider comprising a plurality of interconnected divider modules, each of said divider modules including an upstanding panel and a first set of hinge members and a second set of hinge members, said first set of hinge members being carried by said panel adjacent to one side edge thereof and including two vertically spaced pairs of hinge members, one of which pairs is male and the other of which is female respectively disposed adjacent to the two spaced-apart front and back surfaces of said panel at vertically spaced elevations, said second set of second hinge members being carried by said panel adjacent to the opposite side edge thereof and including two vertically

spaced pairs of hinge members, one of which pairs is male and the other of which is female respectively disposed adjacent to the two spaced-apart front and back surfaces of said panel at vertically spaced elevations, the female hinge members in said first set being disposed near the top of the panel and in horizontal alignment with and arranged complementary to the male hinge members in said second set, and the male hinge members in said first set being disposed near the bottom of the panel and in horizontal alignment with and arranged complementary to the female hinge members in said second set, whereby each divider module may be simultaneously pivotally coupled at two vertically spaced elevations to as many as two other adjacent divider modules at each side edge to form said room divider and to accommodate arrangement thereof in numerous different configurations.

8. The room divider module set forth in claim 7, wherein each male hinge member includes a pintle, and each female hinge member includes a socket.

9. A modular room divider for partitioning a room and mounting associated accessory equipment therein, said modular room divider comprising a plurality of interconnected divider modules, each of said divider modules including an upstanding panel body having two spaced-apart front and back surfaces, two hinging assemblies respectively connected to said panel body at the opposite side edges thereof, each of said hinging assemblies including an upright panel end member and a set of hinging members fixedly mounted on said end member, said panel end member being connected to the adjacent end of said panel body and having two spaced-apart front and back surfaces respectively disposed in use adjacent to the front and back surfaces of said panel body, at least one of the front and back surfaces of said panel end member being provided with a plurality of spaced-apart and vertically aligned mounting openings therein, the mounting openings in each end member being respectively disposed in use substantially in horizontal alignment with the mounting openings in the other end member on said module for cooperation therewith in receiving mounting members of the associated accessory equipment to support such equipment on said module, each said set of hinging members including two vertically spaced pairs of hinge elements, one of said vertically spaced pairs being female elements and the other of said pairs being male elements, the female elements at one side edge being horizontally aligned with the male elements of the other side edge and located near the top of said panel end member, the others of said pairs of hinge elements being horizontally aligned and being located near the bottom of said panel end member, each of the vertically spaced pairs comprising a horizontally spaced pair of hinge elements respectively fixedly disposed adjacent to the front and back surfaces of said panel end member, each of said sets of hinging members being constructed and arranged complementary to a corresponding hinging member on an adjacent module for coupling engagement therewith to provide a pivotal coupling therebetween, whereby each divider module may be simultaneously pivotally coupled to as many as two other divider modules at each side edge to form said room divider and to accommodate arrangement thereof in numerous different configurations while supporting associated accessory equipment thereon.

10. The modular room divider set forth in claim 9, wherein each male hinge element includes a pintle, and each female hinge element includes a socket, each of said sockets being constructed and arranged complementary to one of said pintles.

11. The module room divider set forth in claim 9, wherein each of said panel end members is removably attached to the adjacent side edge of said panel.

12. The room divider module set forth in claim 9, wherein each of said panel end members is substantially tubular in construction and generally rectangular in transverse cross section, each of said panel end members further including an end cap receivable in and closing the open ends thereof.

13. A room divider module for interconnection with associated like modules to form a modular room divider and to support associated accessory equipment thereon, said room divider module comprising an upstanding panel body having two spaced-apart outer side surfaces, first and second coupling assemblies respectively connected to said panel body at the opposite ends thereof, said first coupling assembly including a first upright panel end member and a pair of spaced-apart male hinge members carried by said end member adjacent to the upper end thereof and a pair of spaced-apart female hinge members carried by said end member adjacent to the lower end thereof, said second coupling assembly including a second upright panel end member and a pair of spaced-apart male hinge members carried by said second end member adjacent to the lower end thereof and a pair of spaced-apart female hinge members carried by said second end member adjacent to the upper end thereof, each of said panel end members being of hollow tubular construction and being substantially rectangular in transverse cross section, each of said panel end members being connected to the adjacent end of said panel body and having two spaced-apart outer side surfaces respectively disposed in use adjacent to the two outer side surfaces of said panel body, at least one of the outer side surfaces of each of said panel end members being provided with a plurality of spaced-apart and vertically aligned mounting openings therein, the mounting openings in said first end member being respectively disposed in use substantially in horizontal alignment with the mounting openings in said second end member for cooperation therewith in receiving mounting members of the associated accessory equipment to support such equipment on said module, the coupling members of each pair thereof being respectively fixedly disposed adjacent to the two outer side surfaces of the associated panel end member, each of said upper male hinge members being constructed and arranged complementary to one of said upper female hinge members and each of said lower male hinge members being constructed and arranged complementary to one of said lower female hinge members, a support leg including a horizontally extending base member having a flat bottom surface for supporting said leg on an underlying support surface and an attachment member secured to said base member intermediate the ends thereof and extending vertically upwardly therefrom, said attachment member being receivable in the lower end of one of said tubular panel end members for attachment thereto with said base member extending laterally of said panel to support said panel in a stable upright position on the associated support surface, whereby said room divider module

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may be supported by said support leg in a stable upright position on an underlying support surface and may be simultaneously pivotally coupled to a plurality of associated divider modules to form a room divider and ac-

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commodate arrangement thereof in numerous different configurations while supporting accessory equipment thereon.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 3,871,435
DATED : March 18, 1975
INVENTOR(S) : Dale R. Lopatka

Page 1

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 1, line 2, after "This" insert -- is --;

line 36, "second" is misspelled;

Column 2, line 1, "members" is misspelled;

Column 4, line 25, "in" should be -- is --;

Column 8, line 1, after "male" insert -- hinge --;

line 41, after "hinge" insert -- members --;

Column 9, line 56, "members" is misspelled;

Column 11, line 27, "ot" should be -- to --;

line 44, "including" is misspelled;

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,871,435 , Dated March 18, 1975

Inventor(s) Dale R. Lopatka Page 2

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 12, line 63, "which" (second occurrence) is misspelled;

Column 14, line 54 (claim 13, line 39), "said" is misspelled

Signed and sealed this 20th day of May 1975.

(SEAL)
Attest:

RUTH C. MASON
Attesting Officer

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