

Aug. 26, 1969

E. W. CANNON ET AL

3,463,218

SPACE DIVIDER

Filed May 18, 1967

2 Sheets-Sheet 1

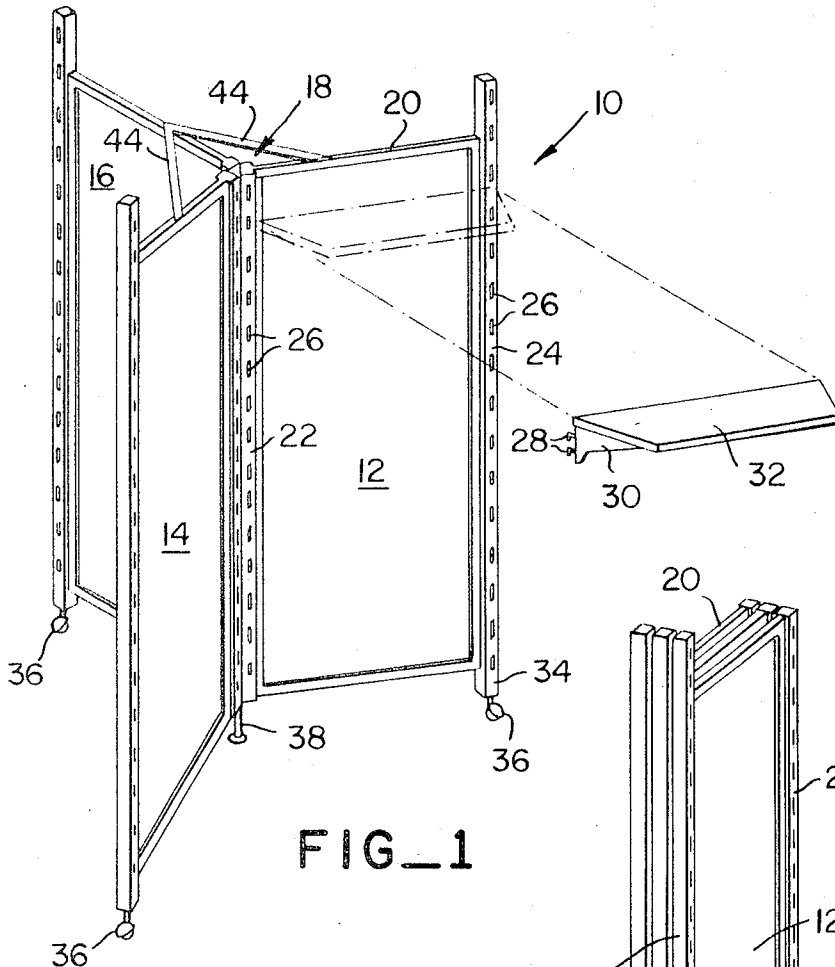


FIG_1

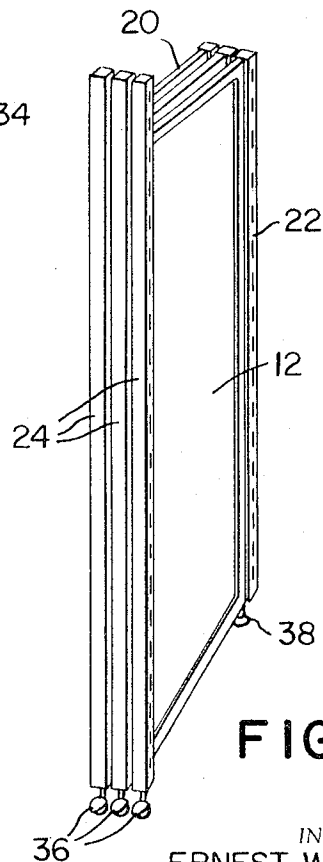


FIG_2

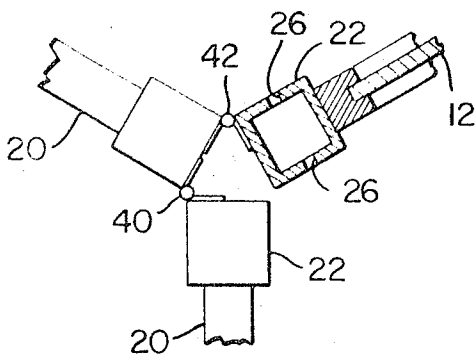


FIG_3

INVENTORS
ERNEST W. CANNON
DAVID W. BYRENS
BY
Townsend and Townsend
ATTORNEYS

Aug. 26, 1969

E. W. CANNON ET AL

3,463,218

SPACE DIVIDER

Filed May 18, 1967

2 Sheets-Sheet 2

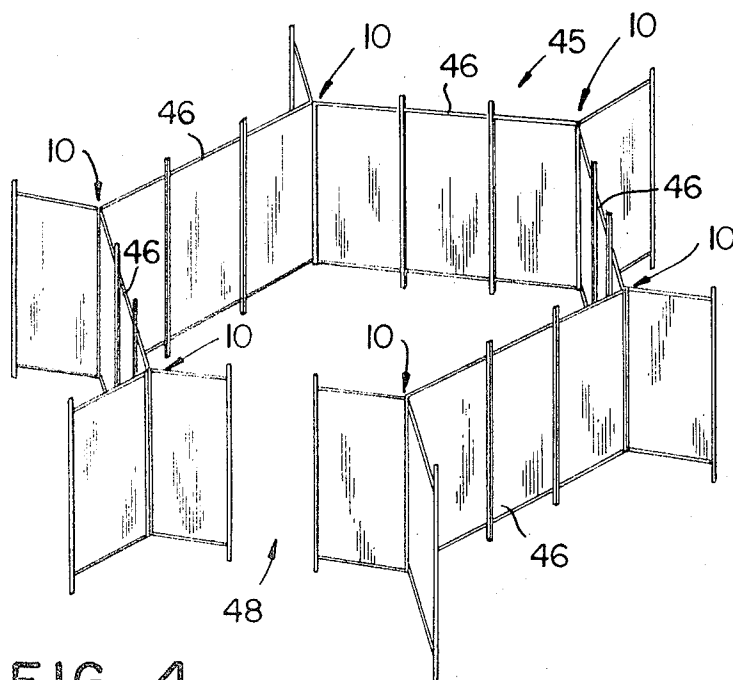


FIG_4

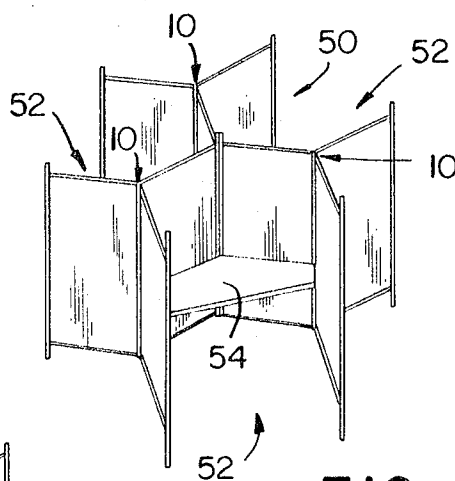


FIG_5

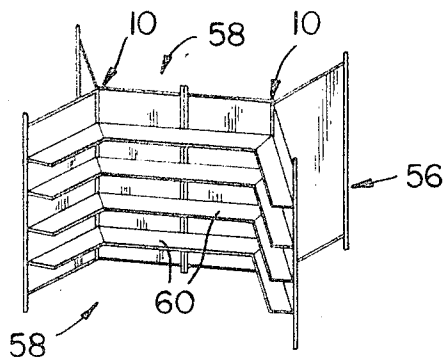


FIG_6

INVENTORS
ERNEST W. CANNON
BY DAVID W. BYRENS

Townsend and Townsend
ATTORNEYS

1

3,463,218

SPACE DIVIDER

Ernest W. Cannon, Albany, and David W. Byrens, Oakland, Calif., assignors of sixteen and two-thirds percent each to James B. Aitken and Charles B. Collin, Berkeley, David F. Shapiro, Danville, and Jack C. T. Koo, San Francisco, Calif.

Filed May 18, 1967, Ser. No. 639,568

Int. Cl. A47g 5/00; G09f 7/02

U.S. Cl. 160—135

6 Claims

ABSTRACT OF THE DISCLOSURE

A self-sustaining modular partition unit comprised of three angularly disposed panels radiating from a common zone and adapted to be arranged with identical other units in end-to-end relationship to define a wall construction having a predetermined configuration. The three panels have means presenting a three-point contact with a floor or supporting surface to assure lateral stability and the panels, by hinged interconnecting, can be moved into different angular positions and into side-by-side positions for storage and transit.

This invention relates to improvements in portable wall construction and, more particularly, to a modular partition unit for forming a segment of a wall.

The present invention is directed to a partition unit or wall module comprised of three angularly disposed panels wherein the panels radiate from a common zone and have means providing a three-point support for the module. Thus, the module is inherently stable and thereby self-sustaining even though its panels can be moved into any one of a number of different relative positions to define a wall segment of a particular configuration.

The panels are preferably hinged along the common zone so that they can be readily moved into their operative positions from stored positions with the panels in substantially side-by-side relationship. When the panels are in their stored positions, the module can be easily moved from place to place or can be positioned in a storage area of limited size. Also, means can be provided to maintain the hinged interconnecting panels in fixed angular positions relative to each other so that the module will not only have lateral stability but also will have structural rigidity to guard against collapsing.

The purpose of the module of this invention is to be combined with other and identical modules to divide a space or form a wall of a predetermined configuration. Thus, the basic module of this invention can be used to make walls of a number of different configurations merely by arranging a plurality of the modules in different ways with each pair of adjacent modules in substantially end-to-end relationship. The present invention is, therefore, extremely versatile in that, regardless of the space available to be divided, the module when combined with other modules can divide the space so that it can be used to the fullest extent possible.

The module of the invention is simple and rugged in construction and can be set up quickly and easily without dependence on floor, ceiling or side wall connections or support. Since the module by its very nature is self-sustaining, it actually need not be connected to adjacent modules when the modules form a wall. Because of the simplicity of the module, workmen need not have special skills or tools to assemble or disassemble a wall comprised of a group of the modules. Also, the module is relatively lightweight in construction so that even a single individual working alone can, with a minimum of effort, quickly assemble a wall having any one of a number of different configurations. This is an important feature

2

for classrooms or the like where the classroom instructor may wish to divide up his class in a certain manner while the class is in progress and without disturbing his students.

The module of the invention also can be constructed in a manner to permit it to mount functional appliances thereon, such as electrical fixtures, desk tops, shelves and the like. Thus, the partition unit is versatile in the sense that it can be suitable for a wide variety of uses. For instance, the module can be used for making portable classrooms, exhibition booths, study alcoves, conference rooms and other types of portable enclosures. Moreover, the sizes of the various walls formed by a plurality of modules can be effectively increased by the use of single panels judiciously inserted between adjacent modules to increase the length of the wall without changing the basic configuration thereof. In this way, an open space can be more effectively and economically divided and thereby utilized, especially where the space is of irregular configuration.

It is, therefore, the primary object of the present invention to provide a basic wall module or partition unit comprised of three panels radiating from a common zone and constructed in a manner to provide a three-point support whereby the module is self-sustaining and can be readily combined with other and identical modules to form a wall having any one of a number of desired configurations depending upon the specific arrangement of the various modules.

Another object of this invention is to provide a partition unit of the type described wherein the unit can be quickly and easily collapsed with the three panels thereof essentially in side-by-side relationship, whereby the unit is in a compact condition suitable for storage or for transit to a wall site.

A further object of the present invention is to provide a wall module of the aforesaid character wherein the panels thereof may be provided with structure for quickly and easily mounting functional appliances thereon so that the appliances can be attached and be ready for use as soon as the module is set up in an operative position forming a part of a wall or by itself, a space dividing unit.

Still another object of this invention is to provide a wall formed from a plurality of modules of the type described wherein the wall can be quickly and easily assembled and disassembled without requiring special skills or tools and without dependence on mounting structure on floors, ceilings or side walls.

Other objects of this invention will become apparent as the following specification progresses, reference being had to the accompanying drawings wherein a preferred embodiment of the partition unit is illustrated.

In the drawings:

FIG. 1 is a perspective view of the wall module or partition unit of this invention in an operative condition;

FIG. 2 is a perspective view of the module in a stored or collapsed condition;

FIG. 3 is a fragmentary top plan view, partly broken away, of the module showing the hinge means thereof;

FIG. 4 is a perspective view of one type of wall formed from a number of the modules;

FIG. 5 is a view similar to FIG. 4 but illustrating another type of wall formed by the modules; and

FIG. 6 is a view similar to FIGS. 4 and 5 but illustrating a third type of wall formed by the modules.

The wall module or partition unit of this invention is illustrated in FIGS. 1 and 2 and is broadly denoted by the numeral 10. Module 10 includes three panels 12, 14 and 16 having respective sides adjacent to a common zone 18 so that the panels, when they are angularly disposed relative to each other, effectively radiate from this zone in different directions.

For purposes of illustration only, each of the panels has a continuous frame 20 at its outer periphery. An inner member 22 is secured to and extends along one longitudinal side of frame 20 and an outer member 24 is secured to and extends along the opposite longitudinal side of frame 20. Each of the members 22 and 24 may be of any construction but, for purposes of illustration, at least member 22 is hollow (FIG. 3) for receiving an electrical conduit or the like. Members 22 and 24 are provided with slots 26 therein for receiving the mounting pins 28 of mounting brackets 30 of conventional construction. Brackets 30 are utilized for securing one or more functional accessories to a panel, such as a shelf 32 or the like.

Member 24 extends below the bottom of frame 20 to define a leg 34 having a caster 36 thereon for engaging a floor or other supporting surface. Inner member 22 of one of the panels is provided with a leg 38 which is shorter than legs 34 and thereby is out of engagement with the supporting surface when the panels are angularly spaced apart as shown in FIG. 1.

Inner members 22 of panels 12, 14 and 16 are hinged together to allow articulation of module 10. For purposes of illustration only, a pair of hinges 40 and 42, such as piano hinges, are utilized (FIG. 3), hinge 40 interconnecting panels 14 and 16 and hinge 42 interconnecting panels 12 and 16. Other hinge structure could be used if desired. Also, for relatively permanent installations, means could be employed to rigidly interconnect inner members 22, thus rendering the use of hinges unnecessary.

Hinges 40 and 42 allow the panels to swing from the expanded or operative positions shown in FIG. 1 to collapsed or stored positions shown in FIG. 2. In the stored condition, the panels are in substantially side-by-side relationship and define an essentially two-point contact relative to the supporting surface therebelow in that leg 38 forms one of the two points and casters 36 define the other point. In practice, the casters are spaced slightly apart so that some lateral stability is achieved, sufficient at least to sustain the module uprightly for a time until other lateral support can be provided for.

Any suitable means for holding the panels in their angularly disposed positions can be used. For instance, a pair of braces 44 coupled to frames 20 in the manner shown in FIG. 1 can be used to render the panels substantially immovable relative to each other. The braces are preferably releasably secured in any suitable manner to the frame so that they can be removed when it is desired to move the panels into their stored positions (FIG. 2).

In use, module 10 is employed with other and identical modules to form a wall having a predetermined construction. To this end, the panels of each module are set at a preselected angular spacing relative to each other. For purposes of illustration only, the panels are shown in FIG. 1 as being spaced apart by an arcuate distance of 120°. Other angular spacings can be used if desired. For instance, the panels can assume a T-shaped configuration with two of the panels in the same plane and a third panel perpendicular to the first two panels.

To illustrate how module 10 can form a segment of a wall, reference is had to FIGS. 4 and 6. In FIG. 4, a number of modules 10 are arranged to form the wall 45 of a hexagonal enclosure. In this case, a panel of one module is disposed in the same plane as the panel of an adjacent module. Such coplanar panels can be in end-to-end relationship to provide a hexagonal enclosure of a given dimension. However, the size of the enclosure can be increased by merely placing an upright panel 46 between the co-planar panels of each pair of adjacent modules 10. To maintain panel 46 in an upright condition, it generally will be connected by any suitable structure to the adjacent modules 10. The absence of a panel 46 between a pair of adjacent modules 10 provides an entrance 48 to the enclosure. Even if panels 46 are not used, an entrance can be formed for a hexagonal enclosure by swinging one of the

panels of one of the modules to a location which is less than 120° from another panel of the same module. Since the modules are individually self-sustaining, no structure is necessary for interconnecting adjacent modules or for connecting the modules to the floor, ceiling or side walls.

With the enclosure formed in the manner shown in FIG. 4, furniture or other structure can be placed in the enclosure. Also, functional appliances can be mounted on the faces of the modules corresponding to the inner surface of the overall wall construction. Means can be provided to place electrical outlets at various locations along the wall with the outlets being coupled to a single source of electrical power mounted in the floor or supporting surface.

Another use of module 10 is shown in FIG. 5 wherein a wall 50 is formed from three modules 10 arranged to define three study alcoves 52 which are separated from each other. Each alcove can be provided with a desk 54 mounted on adjacent modules by the use of a suitable structure such as mounting brackets 30. Again, it is noted that the adjacent modules need not be interconnected or connected with the floor, ceiling or adjacent side walls.

FIG. 6 illustrates still another way of utilizing a number of modules 10 to form a wall 56 of the type for exhibition or display purposes. In this embodiment, a pair of modules 10 are arranged so that one panel of each is in the same plane as a panel of the other. By virtue of this construction, back-to-back display areas 58 can be formed.

The partition unit of this invention, by virtue of its simplicity, provides functional flexibility and program adaptability beyond that of conventional partition structure. It provides a visual barrier similar to a wall and can be easily rearranged to form a wide variety of walls. In addition, it serves furniture needs by ready adaptability to storage units, writing surfaces, shelving and other interchangeable appliances. By virtue of its inherent stability, it can be arranged independently of ceiling or floor structure, window locations, lighting fixtures or other permanent architectural features. The partition unit can be easily moved about and folded or collapsed so that it can be stored in a remote location either in its compact or folded condition or in its open or expanded condition to function while being stored.

While one embodiment of this invention has been shown and described, it will be apparent that other adaptations and modifications can be made without departing from the true spirit and scope of the invention.

What is claimed is:

1. A partition unit for a wall construction comprising: first, second and third panels, each panel having a free side edge and a side edge opposite to the free side edge, the opposite side edge of each panel being adjacent to the corresponding side edges of the other panels; hinge means coupling the opposite side edges of the panels together to permit the panels to be moved from respective, operative positions in angularly spaced relationship with respect to each other to collapsed conditions in substantially side-by-side relationship with respect to each other, the free side edge of each panel, when the latter is in an operative position, being positionable in proximity to a corresponding free side edge of a panel of another partition unit, a leg for each panel, respectively, the legs being disposed on said panels to provide a three-point contact support therefor; and a fourth leg coupled to a panel adjacent to said opposite side edge thereof, the fourth leg being of a length sufficient to be out of substantial panel-supporting relationship when the panels are in their operative positions and to support the panels when the latter are in their collapsed positions.

2. A partition unit as set forth in claim 1, wherein each of the first-mentioned legs has a caster thereon.

3. A partition unit as set forth in claim 1, wherein is provided means coupled with said panels for maintaining same in their operative position, said maintaining means

5

including a brace coupled to at least a pair of said panels adjacent to the zone at which the panels are hinged.

4. A partition unit as set forth in claim 1, wherein one of the panels has a frame provided with means thereon for mounting utilitarian structure on the frame.

5. A wall construction comprising: a pair of spaced partition units, each unit including three, generally upright panels, each panel having a pair of spaced side edges, one side edge of each panel being hingedly coupled to corresponding side edges of the other panels whereby the panels radiate from a common zone, each unit having three legs, one leg on each of the respective panels with the legs being disposed to provide a three-point contact support for the units; and a panel removably disposed between said units and in substantially abutting relationship to respective, opposite side edges of corresponding panels thereof, whereby the partition units and the panel define a wall.

6. A wall construction as set forth in claim 5, wherein at least one of said partition units is provided with cooperating means for mounting functional appliances thereon.

5

10

15

20

6

References Cited

UNITED STATES PATENTS

435,604	9/1890	Hasselman	52—70
1,022,137	4/1912	Hodge	160—135 X
1,045,854	12/1912	Kevitt et al.	160—135 X
2,655,740	10/1953	Goodrich	40—102 X
2,919,034	12/1959	Levy	160—135 X
3,017,969	1/1962	Nielsen	160—351 X
3,204,689	9/1965	Howell	160—135

FOREIGN PATENTS

394,733	7/1933	Great Britain.
487,896	6/1938	Great Britain.

PETER M. CAUN, Primary Examiner

U.S. Cl. X.R.

40—125; 160—351