March 18, 1969 H. YARME ET AL 3,433,183

TABLE STRUCTURE

Filed June 24, 1966

Sheet 1 of 2

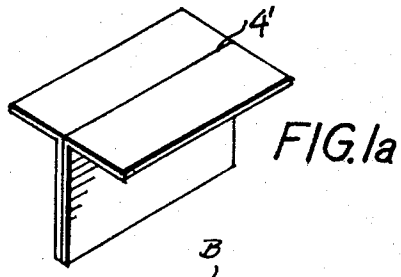



FIG. 1a

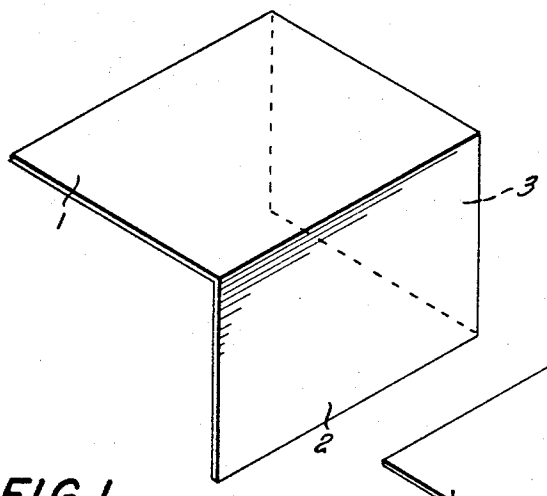



FIG. 1

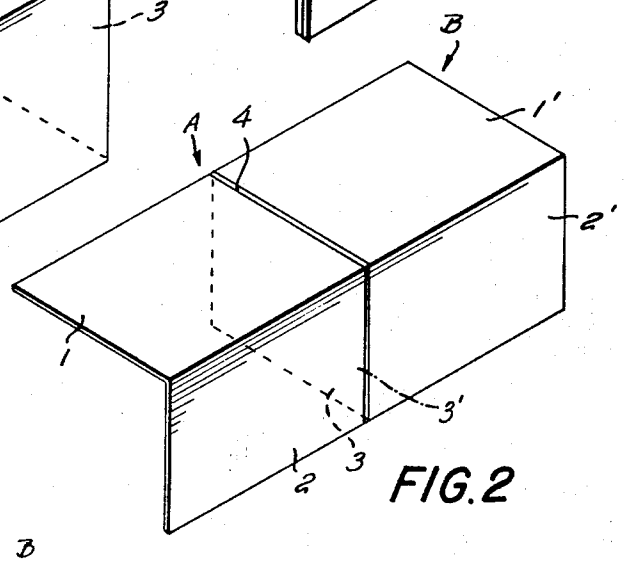



FIG. 2

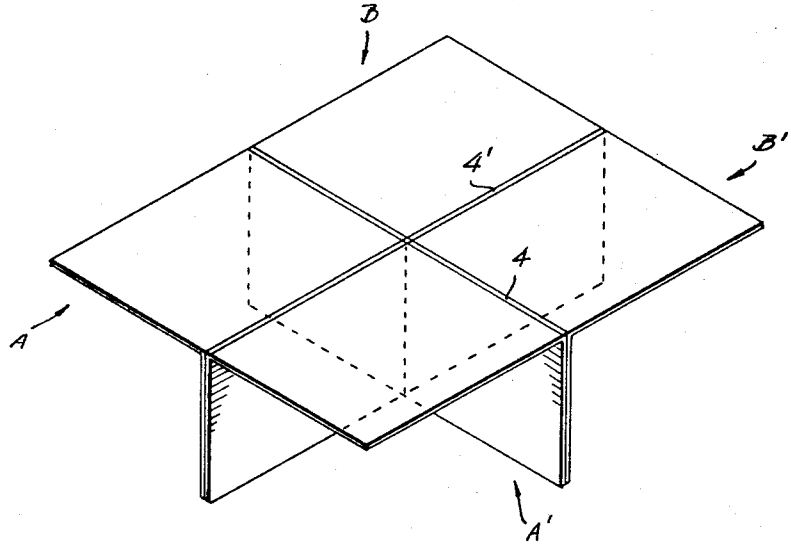



FIG. 3

INVENTORS
Howard Yarme
Ira Saltz
Michael V. Strike
ATTORNEY

March 18, 1969 H. YARME ET AL 3,433,183

TABLE STRUCTURE

Filed June 24, 1966 Sheet 2 of 2

FIG. 9

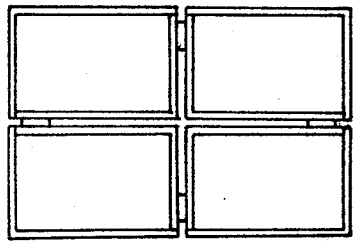
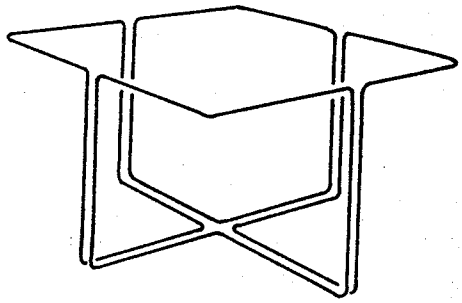


FIG. 5



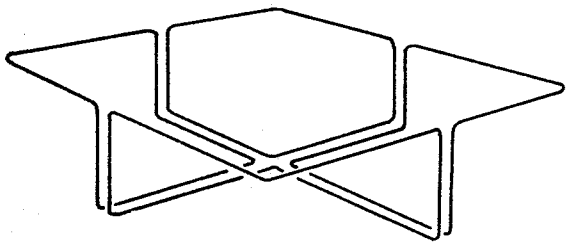


FIG. 4

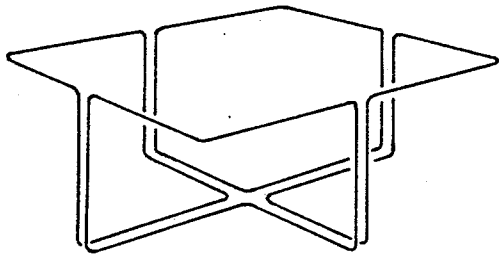


FIG. 6

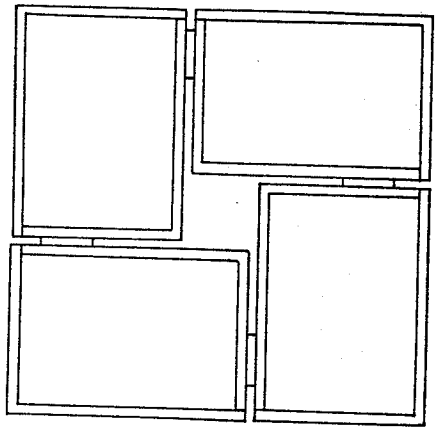


FIG. 8

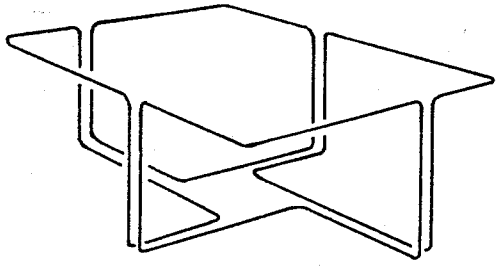


FIG. 7

INVENTORS
Howard Yarme
Ira Saltz
Richard J. Stoker
ATTORNEY

United States Patent Office 3,433,183
Patented Mar. 18, 1969



3,433,183

# TABLE STRUCTURE

Howard Yarme, 93 Sanford St. E., Yonkers, N.Y. 10704, and Ira Saltz, 341 Greenlawn Road, Greenlawn, N.Y. 11740

Filed June 24, 1966, Ser. No. 560,180
U.S. Cl. 108—12 5 Claims
Int. Cl. A47b 85/00

## ABSTRACT OF THE DISCLOSURE

A table consisting of at least two units each of which comprises portions which are located in three intersecting planes all of which extend at right angles to one another. The units are adapted for movement to a plurality of different relative positions in which the portions of the units together occupy respective areas whose dimensions differ in dependence upon the relative positions of the units.

The present invention relates to a table structure. More specifically, the present invention relates to a convertible table structure. Still more specifically, the invention relates to a table structure which is convertible so that a single structure can be adjusted and can, in various conditions of adjustment, constitute tables of different size and configuration.

Generally speaking, it is an important object of the present invention to provide a convertible table structure.

A more specific object of the invention is to provide a table structure which can be simply and quickly converted from one given state into another.

An additional object of the invention is to provide such a convertible table structure which is readily adjustable so as to constitute, in one condition of adjustment, a table of a given height, size, appearance and/or configuration, and to constitute in at least one further position of adjustment a table which may differ in some or all respects from the table presented by the structure in the first-mentioned condition of adjustment.

A concomitant object of the invention is to provide such an adjustable table which can be converted from one condition of adjustment to another without requiring the use of tools or necessitating possession of special skills.

Yet an additional object of the invention is to provide a table structure of the type outlined above in which different surfaces of the components of the structure may have different textures and/or colors.

Another object of the invention is to provide such a table structure in which the components, which in the various positions of adjustment of the structure make up the table top and/or the table support means, may consist of various different materials.

In accordance with one feature of our invention we provide, in a table, a first leg and a second leg each comprising two sections, and pivot means connecting all sections of the first and second legs and defining a common pivot axis about which the sections can pivot between two spaced positions in one of which the sections of one of the legs abut one another and in the other of which the sections of the other of the legs abut one another, whereby those sections which do not abut in the respective position constitute at least a portion of the table top.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments when read in connection with the accompanying drawings, in which:



FIGS. 1 and 1*a* are somewhat schematic perspective views of basic sections for use in the novel table structure;

FIG. 2 illustrates a basic table structure in accordance with the present invention, utilizing two of the sections shown in FIG. 1;

FIG. 3 shows another embodiment of the novel table structure;

FIGS. 4–6 illustrate yet a further embodiment of the novel table structure in three different positions of adjustment;

FIG. 7 illustrates an additional embodiment of the novel table structure;

FIG. 8 is a schematic top-plan view of the embodiment shown in FIG. 7; and

FIG. 9 is a schematic top-plan view of the embodiment shown in FIGS. 4–6.

Discussing now the drawing in detail, and firstly FIG. 1 thereof, it will be seen that there is shown a basic section for use in constructing the novel table structure disclosed herein. Essentially, the section shown in FIG. 1 defines a rectangular volume of space bounded by six surfaces. It should be understood, of course, that the volume of space need not be rectangular, but could also for instance be quadratic. Instead of utilizing six surfaces as would be the case in a box-type construction, however, the section shown in FIG. 1 comprises only three surfaces, in the illustrated embodiment three panels or sections which are respectively designated with reference numerals 1, 2 and 3. The panels 1–3 are arranged in respective first planes which all intersect one another at right angles as is evident from the drawing.

Combining two of these sections with one another, one arrives at the table construction shown in FIG. 2. For the sake of convenience, one of the sections of which the table construction in FIG. 2 is composed is designated with reference numeral A whereas the other is designated with reference numeral B. The respective panels are again identified with reference numerals 1–3 in the case of section A, whereas in the case of section B they are identified with reference numerals 1′ and 2′, the third panel of section B not being visible. It will be understood, of course, that the third panel of section B is located adjacent to and parallel with the panel 3 of section A. Sections A and B are joined together by a suitable means, for instance any type of hinge such as a piano hinge, or some other instrumentality, so as to have a common pivot axis 4.

For instance, the hinge can be constituted by an elongated member of plastic or other material, defining two channels into which suitable projections provided on the edge portions of the respective panels extend. If the material is somewhat elastic, then such projections can simply be snapped into the channels. This is particularly important in connection with the embodiments of FIGS. 4–7 since there, as will be pointed out below, the sections may be simply joined together in this manner without being pivotable. In other words, the frame-type sections shown in FIGS. 4–7 will permit, by suitable arrangement of the four components, each of which defines a six-sided volume of space having three different dimensions, to construct six table shapes of differing heights, configuration and/or surface area. This can be accomplished by snapping the components or units together and apart, using the channelled member described, and is included in the inventive concept. However, a specific discussion of FIGS. 4–7 will be given later on.

Such connecting members can, incidentally, serve to space the respective panels or frames apart from one another, and in the case of the frame structure of FIGS. 4–7 they will also space the inventive table structure from

the floor since two or more of the connecting members will, in those embodiments, always be facing the floor or other support on which the inventive structure rests.

In the embodiment shown in FIG. 2, the two panels 1, 1' of sections A and B together constitute a table top. It will be noted that the panels 2, 2' which determine the height of the table top above a supporting surface are rectangular, with their smallest extension being normal to the panels 1, 1'.

If, now, it is desired to change, for instance, the height of the table constituted by the sections A and B, then it is simply necessary to tilt the sections A and B about their common pivot axis 4. This results in a juxtaposition and abutting of the panels 1 and 1', and simultaneously the panel 3 of section A is moved into a common plane with the corresponding panel (which, if illustrated, would be designated as panel 3') of the section B. These two panels together now constitute a new table top and it is simply necessary to turn the structure so that it can rest on the panels 1, 1' and 2, 2' two of which constitute with the panels 3, 3' a pair of panels furnishing the support. In this position, in which the respective panels of that pair of panels are located in two intersecting second planes, the height of the table top is determined again by the extension of the panels 2, 2' which, however, in this case is the longer extension so that the table top constituted by the panels 3, 3' of sections A and B is now at a greater height from the floor than was the case before, that is in the illustration of FIG. 2.

Of course, the intention behind the invention is not merely to be able to provide tables of differing height; rather, by making the panels different sizes each table top can also be of a different size than the other table tops which can be obtained with the same structure. Furthermore, it will be obvious that the surfaces of the various panels which at one time or another will constitute the respective table tops can be covered with various materials, can be painted various different harmonizing or contrasting colors, can be given different textures, and so on. In fact, the panels themselves can be made of different materials or, if desired, those surfaces of the panels which will constitute the various table tops can be covered with different wood veneers, for instance.

Discussing now FIG. 3, it will be seen that here two additional sections have been added to arrive at another embodiment of the inventive table structure. As before, the sections A and B are provided, but additional sections have been added to them and are respectively identified with reference numerals A' and B'. The sections A and A' are joined to the sections B and B' by pivot means which defines a pivot axis 4 corresponding to the one shown in FIG. 2. Thus, sections A and A' can be tilted with reference to sections B and B' in the same manner in which sections A and B can be tilted with reference to one another in FIG. 2. Additionally, however, the embodiment of FIG. 3 is provided with further pivot means which defines a second pivot axis, here indicated with reference numeral 4'. This additional pivot means connects the sections A and B pivotably with the sections A' and B' so that sections A and B can be turned with reference to sections A' and B' about the second pivot axis 4'.

For the sake of simplicity and better understanding, it will be assumed that all sections A, B and A', B' shown in FIG. 3 have surfaces which are designated as in FIG. 1, namely with reference numerals 1, 2 and 3, respectively. A consideration of FIG. 3 will establish that in the position of adjustment shown in the figure the surfaces 1 are all located in a common plane. If, now, the sections A, B are tilted with reference to sections A', B' and into abutment with the same about the pivot axis 4', then it will be the surfaces 3 of each of the sections which will be located in a common plane. These surfaces 3 will then constitute the table top and the inventive table structure will of course have to be turned so that the table top is located in upward position. Conversely, if the sections A, A' are tilted with reference to the sections B, B' about the pivot axis 4, then the surfaces 1 will again abut one another and thus be located in facing parallel planes, whereas it will now be the surfaces which are located in a common plane and constitute the table top.

Since, as is indicated in the drawing, the length and the width of each of the panels constituting the respective surfaces 1, 2 or 3 are advantageously different, and since further the dimensions of one panel of each section advantageously are different from the dimension of the other panels in the section, it will be obvious that the various conditions of adjustment resulting from tilting of the inventive table structure about the respective pivot axes 4, 4' will result in tables whose table tops are located at varying different heights from the floor or other surface on which they are supported.

Of course, it is not necessary that the dimensions of the panels differ, that is that the length and width of the panels are different and that the dimensions of the individual panels are different. For instance, it may not be desired to provide table tops of different height or different area, but rather to have the opportunity to expose three different table tops of identical size, but of different color, texture, surface appearance, material or the like. In that case the dimensions of all panels may be identical. For instance, if the inventive table structure is used in garden furniture it may be desirable to be able to expose a new table top on short notice simply because the top which has been heretofore exposed is soiled and no cleaning means is at hand, or because the top heretofore exposed to scratched. In such cases it may not be necessary or even desirable that the area or height from the ground of the individual table tops vary from case to case.

Until now the invention has been described by way of a construction in which the individual sections A and B or A' and B' consist of three panels. However, it is also possible to provide simply a frame having no surfaces, such frame being adapted to have placed thereon a separate table top. This is shown in the remaining figures. Discussing firstly FIGS. 4–6 it will be seen that there is shown therein a frame which corresponds to the embodiment shown in FIG. 3, except that it does not have panels on which the respective surfaces 1, 2 and 3 are provided. Rather, the frame consists of individual sections corresponding to the sections shown in FIG. 1 and again defining a quadratic or rectangular volume of space. It is not believed necessary to describe the construction in FIGS. 4–6 in any more detail since it follows so closely the construction shown in FIGS. 1–3 and can be readily understood from the description thereof. It remains simply to be pointed out that in FIG. 1 the structure is shown in one position of adjustment where the table top which is to be placed onto it will be supported at a first distance from the ground, whereas in FIGS. 5 and 6, this structure is shown in two other conditions of adjustment in which the table top, which is not shown herein, will be supported in two other positions in which it is spaced from the ground by different distances than that shown in FIG. 4. Also, the area of the table top varies in the positions shown in FIGS. 4–6. For this reason, and since a separate top must be provided, the top will advantageously be itself convertible. For instance, the top can consist of a center section provided with two "drop-leaf" sections pivotally secured on either side of the center section so that, in the position of the frame for which the smallest table top area is necessitated, the drop-leaf sections will be folded under the center section and only the surface area of the center section will be utilized, whereas in the two other positions, one or both of the drop leaf sections will be folded up to be in a common plane with the center section. Advantageously, the top will be provided with suitable stops on its underside so that, once placed onto the frame, cannot be inadvertently moved with reference thereto. Of course, instead of a convertible top it is also

possible to provide three tops of different area although this is not a preferred arrangement.

Coming now to the embodiment shown in FIGS. 7 and 8 it will be seen that this differs from the embodiment in FIGS. 3–6 in that the configuration of the individual sections which make up the embodiment shown in FIGS. 7 and 6 is not mirror symmetrical. In other words, and as clearly evident in the drawing, the sections which are rectangular in configuration are so arranged that the longitudinal extension of each section invariably extends transversely of the longitudinal extension of each joining section. Thus, a free space remains at the center, as is clearly evident from FIG. 7 and particularly FIG. 8.

Of course, other configurations of the individual sections and other combinations of these sections into table structures are possible, and all such other possibilities are intended to be encompassed in the scope of the claims appended hereto.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of table structures differing from the types described above.

While the invention has been illustrated and described as embodied in a table structure, it is not intended to be limited to the details shown, since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. In a table, a pair of legs consisting of a first leg and a second leg each comprising only a first, a second and a third section connected to one another and arranged in three respective first planes which intersect each other substantially at right angles along lines of intersection which in turn intersect each other in one point; and pivot means along one of said lines of intersection and connecting said legs for pivotal movement thereof about a common pivot axis between at least two positions in each



of which a section of one leg abuts a section of the other leg in parallelism therewith, while the remaining sections of said legs constitute two pairs of sections each including a section from each leg, the respective pairs of sections being located in two intersecting second planes and at least one such pair of sections defining at least a portion of a table top.

2. A structure as defined in claim 1; and further comprising an additional pair of legs consisting of a third and fourth leg also comprising a first, a second and a third section, and being arranged mirror-symmetrically with reference to said first and second legs, said pivot means connecting said additional pair of legs for pivotal movement about said pivot means corresponding to the pivotal movement of said first and second legs; and additional pivot means connecting said pairs of legs in mirror-symmetrical relationship and defining an additional common pivot axis for such pairs at right angles to the first-mentioned pivot axis so that in any position of said pairs of legs relative to one another one pair of sections of each pair of legs defines with one pair of sections of the other pair of legs a table top.

3. A structure as defined in claim 2, wherein the dimension of said sections at right angles to said pivot axis is different from the dimension parallel to the respective pivot axis, so that the height of said structure differs in dependence upon which of said sections of the respective legs abut.

4. A structure as defined in claim 2, wherein said sections are constituted by panels.

5. A structure as defined in claim 4, wherein said panels have respective surfaces, and wherein at least some of said surfaces are of different colors.


**References Cited**

UNITED STATES PATENTS

| | | | |
|---|---|---|---|
| 308,538 | 11/1884 | Walters | 108—12 |
| 881,278 | 3/1908 | Acheson | 108—12 |
| 1,507,760 | 9/1924 | Sutherland | 108—64 |
| 2,110,068 | 3/1938 | Kowalski | 108—11 |
| 3,058,793 | 10/1962 | Schultz | 108—13 |



FRANCIS K. ZUGEL, *Primary Examiner.*

U.S. Cl. X.R.

108—64