Sept. 19, 1967 M. W. SHETTLES 3,342,147

MODULAR TABLE

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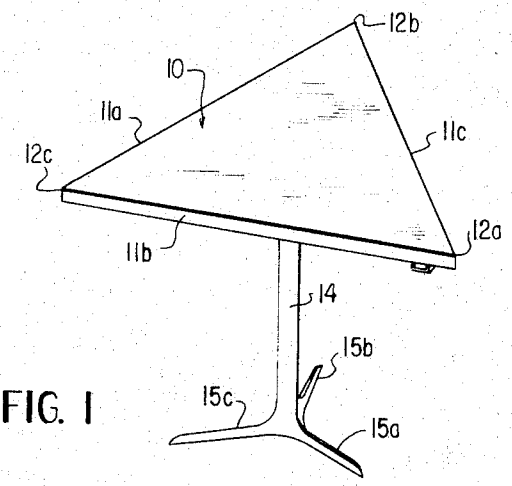


FIG. 1

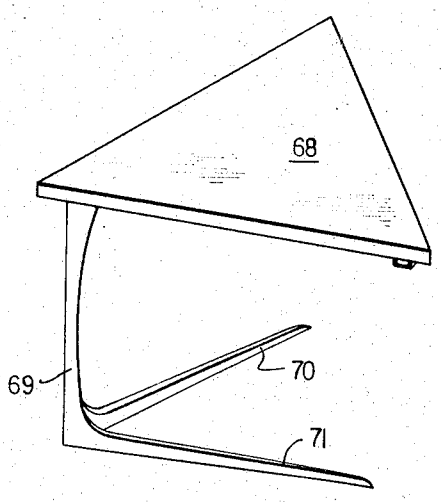


FIG. 2

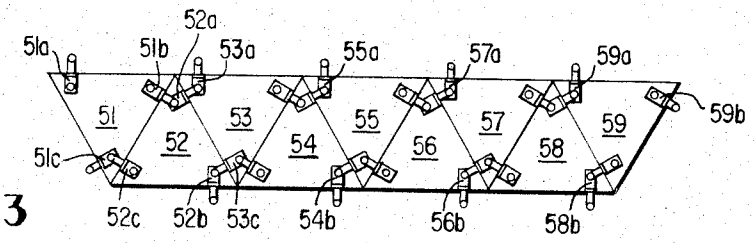


FIG. 3

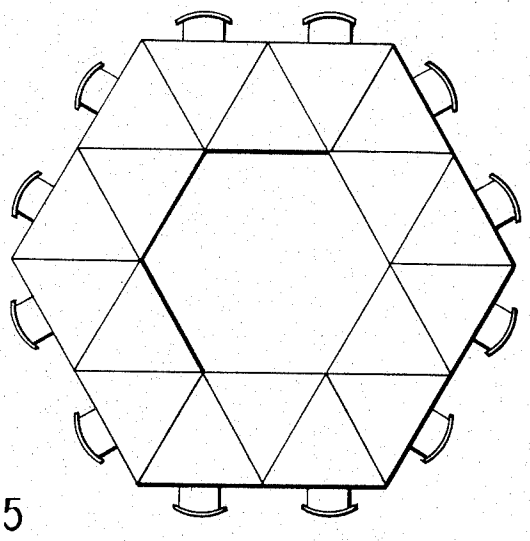


FIG. 5

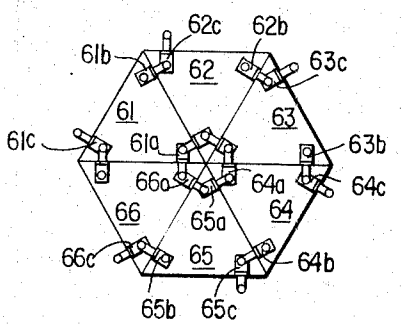


FIG. 4

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FIG. 8

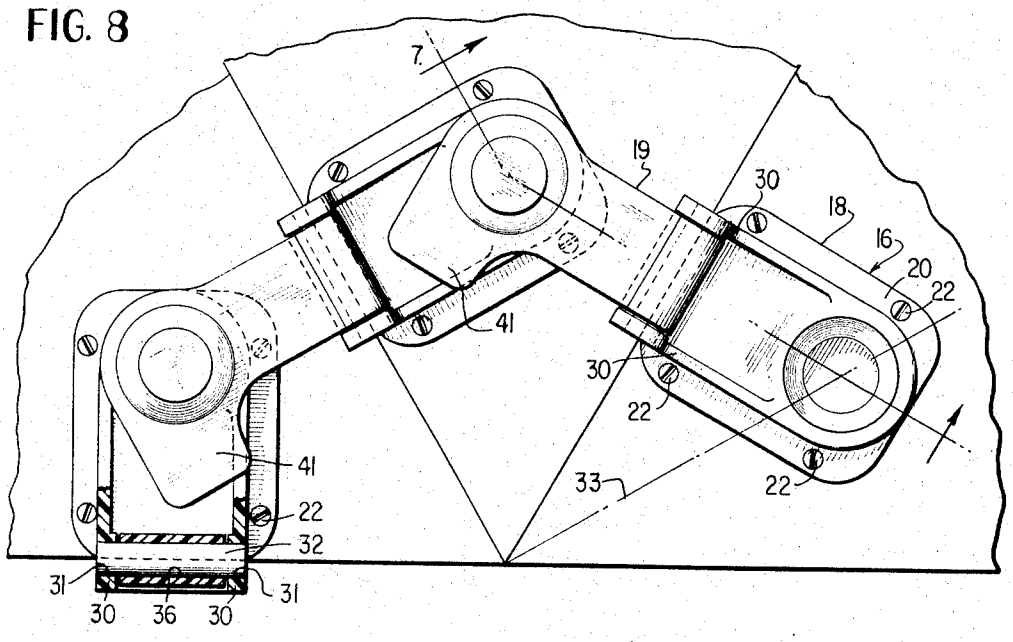


FIG. 7

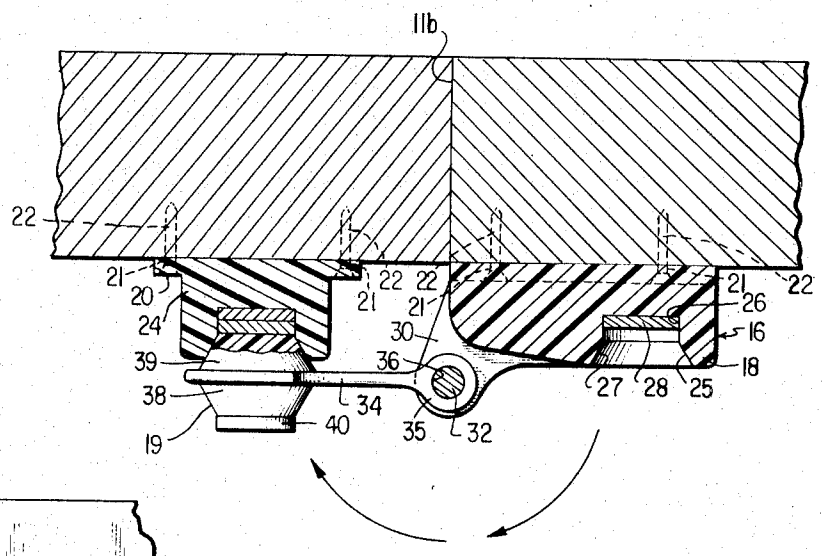
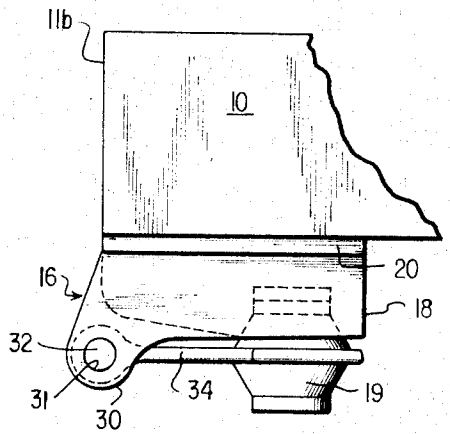


FIG. 6



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3,342,147

MODULAR TABLE

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Filed Apr. 12, 1966, Ser. No. 542,062
4 Claims. (Cl. 108—64)

ABSTRACT OF THE DISCLOSURE

Modular tables of a size that would normally accommodate a single person, and of a shape such that a similar table can be positioned adjacent thereto, locked into position, so that the two adjacent tables virtually form a single surface.

Background of the invention

In accommodating a plurality of people at a table, it is not unusual to encounter difficulty in finding a table or combination of tables that will seat the people in a desirable disposition. The problem is further complicated by the fact that occasionally the number of people to be seated is not ascertained until they arrive on the scene. When utilizing the conventional rectangular tables or round tables in such circumstances, the problems involved are usually that the tables do not fit the room in which they are used; gaps are present between adjacent tables, and a few of the people seated at the tables are forced to straddle the legs of adjacent tables. Also, the addition of a few extra people may cause the use of a large additional table which creates a much larger surface than actually needed by the few people, and the usual standard dimensions of rectangular tables limit the particular number of arrangements that might be formed with the tables.

Summary of the invention

Accordingly, this invention comprises a modular table, or a plurality of modular tables, that are positionable adjacent each other and capable of being attached to each other so as to create a plurality of various shaped rigid table surfaces. The particular shape of an individual modular table is that of an equilateral triangle and the locking elements of each table are positioned adjacent the angle formed between adjacent sides of the table. The locking elements take the form of a pivotal latch that, when pivoted to its unlatched position, is retained beneath the table to which it is attached and, when pivoted to its latched position, is received in the latching element of an adjacent table, so as to connect adjacent tables to each other.

Thus, it is an object of this invention to provide a table that is positionable adjacent another table so that the two adjacent tables form an extended table surface.

Another object of this invention is to provide a plurality of tables having latching elements connected thereto that connect the tables to each other.

Another object of this invention is to provide a plurality of tables of similar shape that are positionable adjacent each other to form various table surface arrangements.

Another object of this invention is to provide a plurality of tables, each table taking the shape of an equilateral triangle.

Another object of this invention is to provide a triangular shaped table having latching elements adjacent the apex of each angle thereof.

Another object of this invention is to provide a plurality of tables that are positionable adjacent each other so as to form a table surface of various sizes and shapes so as to conform with the boundaries of a room in which the tables are located.

Another object of this invention is to provide a table surface, the shape of which is adaptable to various room situations.

Another object of this invention is to provide a modular table that is economical to manufacture, convenient to use, and adaptable to various room arrangements.

Other objects, features and advantages of the present invention will become apparent upon reading the following specification, taken in conjunction with the accompanying drawing, in which:

Brief description of the drawing

FIG. 1 is a perspective view of the modular table with a center support.

FIG. 2 is a perspective view of the modular table, similar to FIG. 1, but showing a corner support.

FIG. 3 is a bottom schematic view of a plurality of modular tables arranged to form a straight table surface.

FIG. 4 is a bottom schematic view of a plurality of modular tables assembled to form a six-sided table surface that accommodates a single person at each side.

FIG. 5 is a plan view of a plurality of modular tables assembled in a manner so as to form a six-sided table surface of a size to accommodate two persons at each side.

FIG. 6 is a side view of a latching element in its open or unlatched position, showing the manner in which it is fastened to a table.

FIG. 7 is a side view of the latching element shown in FIG. 6, adjacent a cooperating latching element, showing the latching element in its closed or latched position.

FIG. 8 is a plan view of a series of latching elements shown in their latched or closed positions.

Description of the embodiments

Referring now more particularly to the drawings, in which like numerals indicate like parts throughout the several views, FIG. 1 shows a table **10** of a triangular configuration having sides **11***a*, **11***b*, and **11***c* of equal length, defining angles **12***a*, **12***b*, and **12***c* therebetween. The table takes the shape of an equilateral triangle having equal angles between sides of equal length. The table **10** is supported by a center post **14** which is supported by outwardly extending legs or spokes **15***a*, **15***b*, and **15***c*. The spokes can be located directly beneath the angles **12** of the table to afford maximum balance characteristics to the table or they can be disposed intermediate the angles **12** of the table so the person seated at the table will normally straddle one of the spokes.

Referring to FIGS. 6–8, a latching element **16** is attached to the underside of the table **10**, adjacent one edge **11***b* thereof. The latching element **16** comprises a support portion **18** and a pivotal connecting portion **19**.

The support portion **18**, as seen in FIG. 8, is substantially rectangular in shape and has an apertured flange portion **20** adapted to be positioned adjacent the underside of the table **10**. The flange portion **20** has a plurality of apertures **21** therein so that conventional wood screws **22** can be inserted therethrough and screwed into the underside of the table **10**. The support portion **18** also comprises a body portion **24** extending downwardly from the flange portion **20**, defining a recess **25** in a portion thereof remote from the edge **11***b* of the table **10**. The recess **25** is cylindrically shaped at its innermost portion **26**, and tapered at **27**, outwardly of the innermost portion **26**. The innermost portion **26** of the recess **25** contains a magnetized substance **28** therein.

The support portion **18** of the latching element **16** further comprises a pair of downwardly extending flanges **30** at opposite edges thereof. The flanges **30** are apertured at **31** to support a retaining pin **32**, extending between the flanges **30**. The pivotal connecting portion **19** of the latching element **17** comprises a stem **34** having a base **35** defining an aperture **36** therein adapted to surround the retaining pin **32** of the support portion **18**. The stem **34** terminates at its end opposite from the base **35** in a double-ended head **38**. Each side of the double-ended head **38** conforms in shape to the recess **25** of the support portion **18**. The double-ended head **38** has a tapered portion **39** that conforms to the shape of the tapered portion **27** of the recess **25**, and a cylindrical portion **40** that conforms in shape to the cylindrical innermost portion **26** of the support portion **18**.

The stem **34** of the pivotal connecting portion **19** is of a length so that when the double-ended head **28** is pivoted to the position shown in FIG. 6, one side of the double-ended head will fit snugly into the recess **25** of the support portion **18** of the latching element. The magnetized substance **28** inside the innermost portion **26** of the recess **25** tends to retain the pivotal connecting portion **19** in the position as shown in FIG. 6.

As is shown in FIG. 8, the latching elements **16** are positioned so that the center of the recess **25** is located near the apex of an angle between adjacent sides of the table, in a line **33** that would bisect the angle between the adjacent sides of the table. Also, the center of the recess **25** is positioned so that it is located at a distance equal from adjacent sides of the table. The latching elements are also disposed so that the retaining pin **32**, or the axis about which the pivotal connection portion **19** pivots, is disposed in a vertical plane extending through the edge of the table. In this manner, the pivotal connecting portion **19** will pivot to its closed or connecting position, as shown in FIGS. 7 and 8, so that it reaches beyond the edge of its table a distance equal to its length. Inasmuch as each latching element **16** is located in a similar manner on each table, the pivotal connecting portion **19** of one latching element will pivot into the recess **25** of an adjacent support portion of an adjacent latching element when adjacent tables are positioned with their sides adjacent to each other and with their ends aligned with each other, as shown in FIGS. 7 and 8. Of course, since the recess **25** of each latching element **16** contains a magnetized substance **28**, when the pivotal connecting portion **19** of a latching element **16** is pivoted to its closed or latching position, as shown in FIGS. 7 and 8, the magnetized substance **28** will tend to retain the pivotal connecting portion **19** in its latched or closed position.

In order to facilitate easy removal of the pivotal connecting portion **19** from the recess **25** of its support portion **18**, or from the recess **25** of an adjacent support portion **18**, a tab **41** is provided that extends in a direction substantially normal to the extension of the stem **34**. The tab **41** enables a person to insert his finger between the tab and the table to force the pivotal connecting portion **19** of the latching element **16** away from the magnetized substance **28** of the recess **25**.

When the latching elements **16** are attached to the underside of the tables **10**, they are all positioned so that they extend in one general direction with respect to the table; that is, when facing away from the upper surface of the center of the table toward one of the angles between the side portions thereof, the latching elements are oriented on the underside of the table so that when the pivotal connecting portion is extended so as to be in its closed or latched position, it extends outwardly from the left edge of the table, and its tab **41** extends in a direction toward the angle between the side of the table.

Each table has three latching elements connected to the underside thereof, one latching element being disposed near the apex of the angle between the sides of the table. With this arrangement, when the pivotal connecting portion **19** of each latching element **16** is pivoted to its closed or latched position, as shown in FIGS. 7 and 8, each side of the table will have a single pivotal connecting portion extending therefrom. When the tables are assembled in a manner similar to that shown in FIGS. 3–5, the latching elements **16** will function to connect adjacent tables to each other. By the arrangement of the latches, one may join any side of any table to any other side of any other table.

Operation

FIG. 3 shows the underside of a plurality of table surfaces arranged to form a single elongated table surface. The tables **51–59** are shown with their latching elements in their closed or latched position so as to attach the tables to each other. For instance, table **51** has its latching element **51***a* shown in its extended position, extending from the right edge of the table (as viewed from the bottom of the table) to show how this latching element would function if there were another table adjacent to table **51** to be latched thereto. Of course, since there is no table for latching element **51***a* to engage, it would normally be maintained in its retracted or unlatched position, as shown in FIG. 6. Since the table **52** is disposed adjacent table **51**, and the latching element **51***b* is positioned to open in the direction from table **51** toward table **52**, the pivotal connecting portion of latching element **52***a* is removed from its recess and the pivotal connecting portion of the latching element **51***b* is pivoted to its latching or closed position; that is, latching element **51***b* is pivoted so that it fits down into the recess of the latching element **52***a* so as to attach table **51** to table **52** in the vicinity of the latching elements **51***b* and **52***a*. Of course, since there is no table adjacent the edge of table **51** toward which the latching element **51***c* operates, the pivotal connecting portion of the latching element **51***c* will be removed from its recess and allowed to hang or dangle beneath the bottom surface of the table **51**.

The pivotal connecting portion of the latching element **52***c* of table **52** is pivoted to its latched or closed position so that it is received in the recess of the latching element **51***c* of table **51**. Of course, this connects table **52** to table **51** in the vicinity of latching elements **51***c* and **52***c*. However, since the edge of the table **52** toward which the latching element **52***b* operates is not adjacent another table, the pivotal connecting portion of the latching element **52***b* will be removed from its recess and allowed to dangle beneath the table **52**, in the manner similar to latching element **51***c* of table **51**.

Of course, to connect tables **52** and **53** to each other, the pivotal connecting portion of the latching element **53***a* of the table **53** is removed from its recess and the pivotal connecting portion of latching element **52***a* is inserted therein, and the pivotal connecting portion of latching element **53***c* is received in the recess of the latching element **52***b* of table **52**. This attaches tables **52** and **53** to each other at two points, near the ends of the common sides of the tables. This assures a firm connection between the adjacent tables.

Tables **53–59** are identical to tables **51** and **52**, and are connected to each other in an identical manner, as is

shown in FIG. 3. Of course, a firm connection is made between each adjacent table by the latching element so that there is no danger of the tables being misaligned, or of gaps appearing between adjacent tables.

Because of the tapered portions **27** and **39** of the recess **25** and the double ended head **38**, respectively, the double ended head is guided into its position in the recess **25** when assembling the tables. This functions to perfectly align adjacent tables if the double ended head **38** is properly received in its recess.

As is shown in FIGS. 4 and 5, the tables of the instant invention can be assembled in various manner to meet the requirements of the situation. For instance, FIG. 4 shows six tables assembled so that they form a six-sided table surface. The tables **61–66** are assembled so that each has one of its angles adjacent the center of the table surface formed by the plurality of tables, two edges thereof each being adjacent an adjacent table, and the third edge forming an outside edge of the table surface formed by the table. The latching element of each of the tables **61–66** nearest the center of the table surface formed by the tables **61–66** are moved to their latched or closed position so that they engage the recess of the latching element next adjacent thereto. For instance, the connecting portion of latching element **61***a* is pivoted so as to be received in the recess of the latching element **66***a*, the pivotal connecting portion of the latching element **66***a* is pivoted so as to be received in the recess of the latching element **65***a*, the pivotal connecting portion of the latching element **65***a* is pivoted to be received in the recess of the latching element **64***a*, and so on, until a complete circle is made by the pivotal connecting portion of each of the latching elements of the adjacent table. This, of course, creates a firm connection between each of the tables **61–66** at their inner portions, near the center of the table surface created by these tables.

Each of the tables **61–66** are connected to their next adjacent tables by the latching elements disposed outwardly from the center of the table surface formed by these tables. For instance, the pivotal connecting portion of latching element **61***b* is received in the recess of the latching element **62***c*; the pivotal connecting portion of the latching element **62***c* merely hanging or dangling vertically from the lower surface of the table **62***c*. The pivotal connecting portion of the latching element **62***b* is received in the recess of the latching element **63***c*; its pivotal connecting portion also hanging downwardly from the bottom surface of the table **63**. The remaining tables **63–61** are connected to each other in a similar manner. Of course, the tables **61–66** being connected to each other at two places along each adjacent side creates a firm connection between the tables so that accidental displacement of one table from an adjacent table is virtually impossible. Furthermore, if the tables of FIG. 4 are connected to each other only by the outer latching elements, the inner latching elements **61***a*–**66***a* remaining open, the tables **61–66** will be firmly connected to each other.

FIG. 5 merely shows another method in which the tables can be assembled with firm connection being maintained between each individual table, to form a continuous table surface. While the particular manner of connection between individual tables is not shown in FIG. 5, it should be understood that the latching elements shown in FIGS. 6–8 would also be adaptable to this particular arrangement of tables.

While the tables have been shown with a center post supporting the table surface, it should be understood that other leg supports can be utilized without destroying the versatility of the tables. For instance, the spokes **15***a–c* can be disposed intermediate the sides of the table so that a person sitting at the table will straddle the spokes. Also, FIG. 2 shows a table **68** having a single vertical support **69** extending downwardly from one corner thereof, and outwardly extending spokes **70** and **71** extending away from the vertical support **69** at angles that correspond to the edges of the table adjacent the corner from which the vertical support **69** extends. With this arrangement, accidental tipping of the table surface **68** would be unlikely. Also, while a single center post and a single corner post have been shown (FIGS. 1 and 2) it should be understood that other support arrangements can be utilized without destroying the versatility of the invention. For instance, vertical supports could extend downwardly from the corner of the table. The only criterion that must be maintained with the various supports desired to be utilized with the table is that space be present to properly position the latching elements adjacent edges of the table.

While the invention has been disclosed with latching elements adjacent every corner of each table, it should be understood that it is not beyond the scope of this invention to construct the tables with latching elements attached to less than all of the corners of the tables or to connect less than all the latches to each other. As applied to FIG. 4, it can be seen that if tables **61–66** had only the latching elements **61***a*–**66***a* connected thereto that the tables **61–66** would have a substantially firm connection therebetween, in spite of the absence of the remaining latching elements. Inspection of FIGS. 7 and 8 show that the flat adjacent edges of the tables is such that a single coupling between the tables is enough to prevent adjacent tables from parting due to the expanse of adjacent edges of the tables mating with each other.

It will be obvious to those skilled in the art that many variations may be made in the embodiments chosen for the purpose of illustrating the present invention without departing from the scope thereof as defined by the appended claims.

I claim:

1. A plurality of tables of equal size and each formed with a triangular equilateral surface, means for connecting said tables to one another comprising a latching element disposed adjacent at least one angle between adjacent sides of each table, said latching element including a support portion attached to the underside of its table, said support portion defining a recess therein, a pivotal connecting portion including a stem pivotally connected to said support portion at a point thereof remote from said recess, said stem terminating in a head having opposite sides each of a size and shape corresponding to the size and shape of said recess, said stem being of a length to pivot said head so that one of its sides is received in said recess, said latching element being disposed with its recess centered on a line bisecting the angle formed by converging edges of said table and with said pivotal connecting portion pivotal about an axis disposed in a vertical plane extending through one edge of said table.

2. A plurality of tables, means for retaining said tables to one another including at least one metallic latching element connected to the bottom of the table surface, magnetized means connected to the bottom of the table surface inward of the table edge for retaining said latching element in a retracted position beneath the table surface or for maintaining the latching element of an adjacent table in a latched position whereby adjacent tables are connected to one another.

3. The invention of claim **2** wherein said tables are formed with triangular surfaces and each edge of said tables includes at least one of said magnetized means for connecting adjacent ones of said tables to one another.

4. A plurality of tables each including a generally horizontally disposed table surface and connecting means for connecting said tables to one another so that their table surfaces are disposed in abutting relationship, said connecting means comprising at least one latching element connected to the bottom of the table surface of each table adjacent an edge of the table, receiving means connected to the bottom of each table surface inwardly of the edge of the table, and magnetic means for main-

taining said latching element in a retracted position in engagement with its receiving means beneath the table surface or for maintaining the latching element in engagement with a receiving means of an adjacent table.

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