United States Patent [19]

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[11] **3,794,398**

[45] **Feb. 26, 1974**

[54] **CONVERTIBLE DESK AND CONFERENCE TABLE**

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[22] Filed: **Mar. 27, 1972**

[21] Appl. No.: **238,439**

[52] **U.S. Cl.** **312/241**
[51] **Int. Cl.** **A47b 85/00**
[58] **Field of Search** 312/241, 239, 330, 204; 108/73, 75, 84, 65, 66, 69

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[57] **ABSTRACT**

A convertible desk and conference table having a table-top surface supported by a pillar means. The table-top surface includes a central section and two wing sections disposed along and rearwardly of the central section to define an open area. A leaf conforming in shape to the open area is disposed on guides beneath the central section of the table-top surface. A pair of camming ramps are disposed adjacent the sides of the wing sections and operate to raise the leaf upward to the table-top surface. The convertible desk and conference table is changed from a desk configuration to a conference table configuration by pulling the leaf along the guides and up the camming ramps. The leaf is then joined with the central section of the table-top surface to complete the formation of the conference table.

5 Claims, 7 Drawing Figures

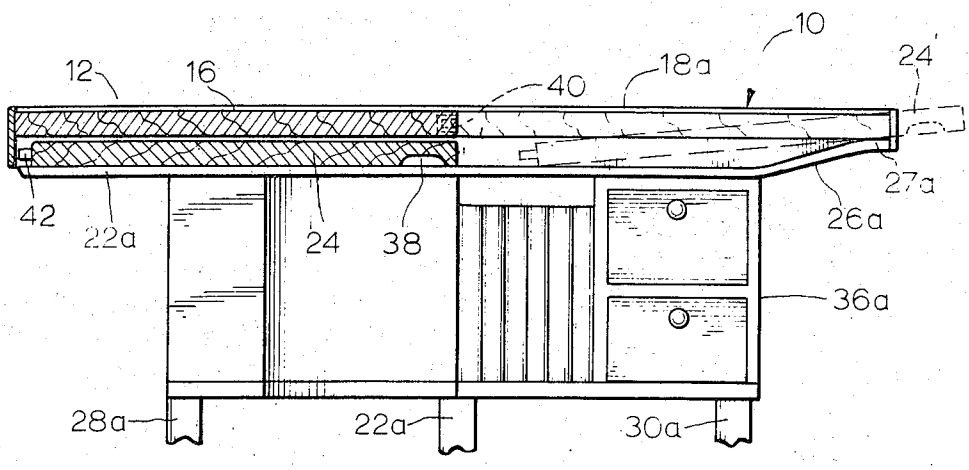


FIG. 1

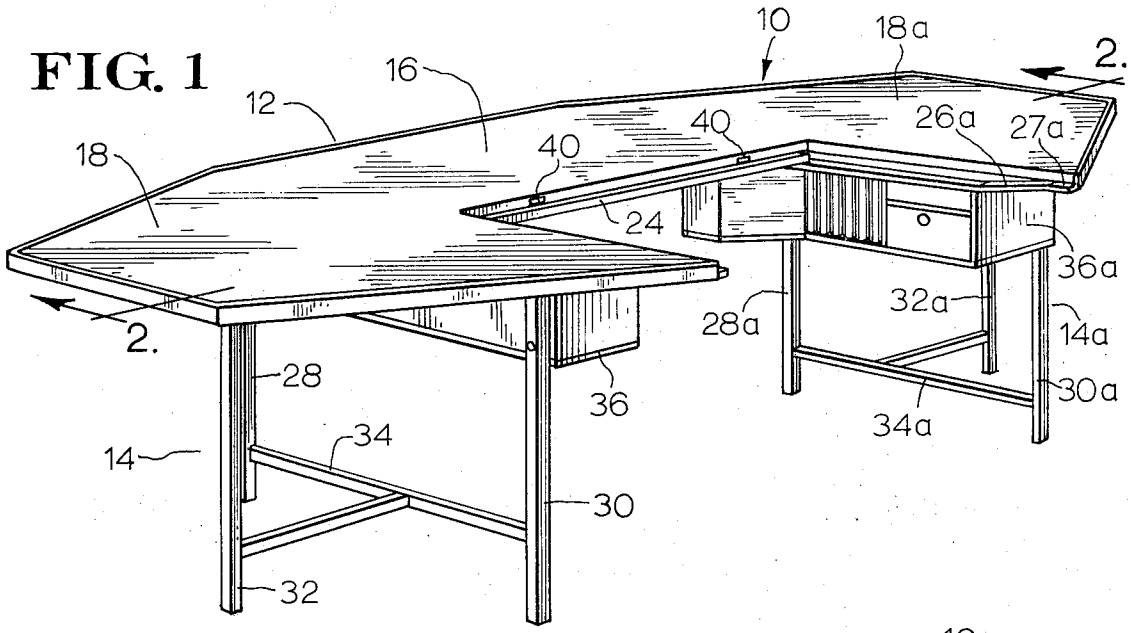


FIG. 2

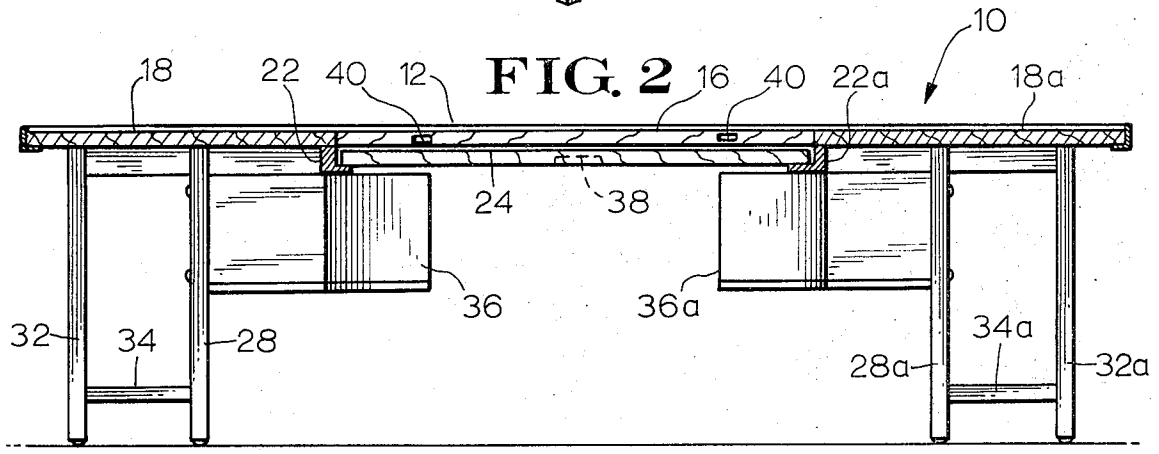


FIG. 3

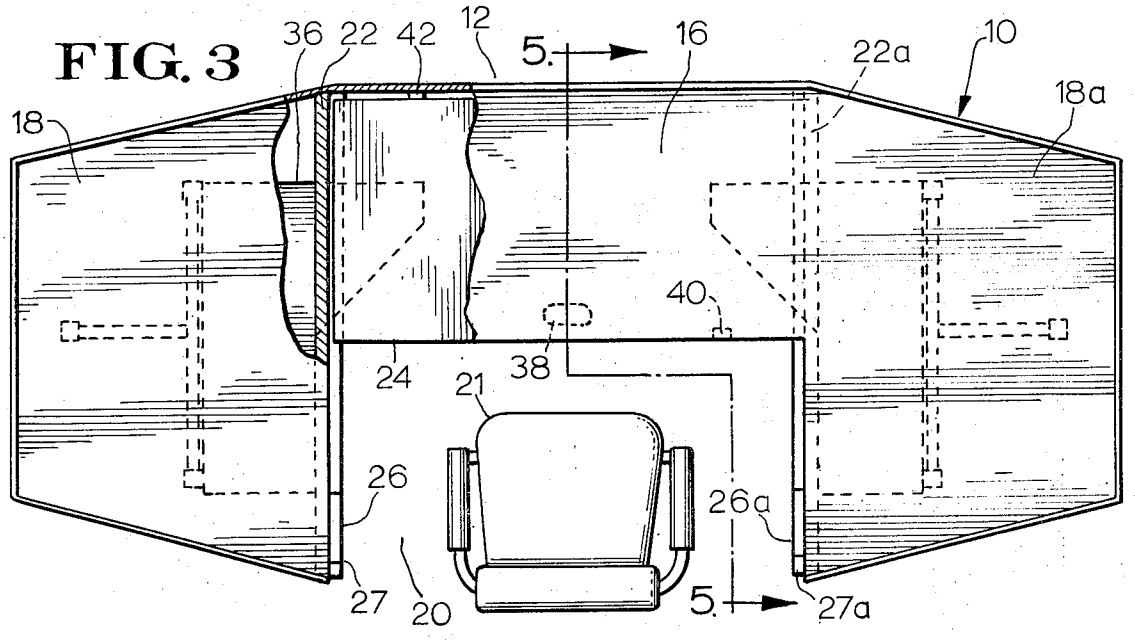


FIG. 4

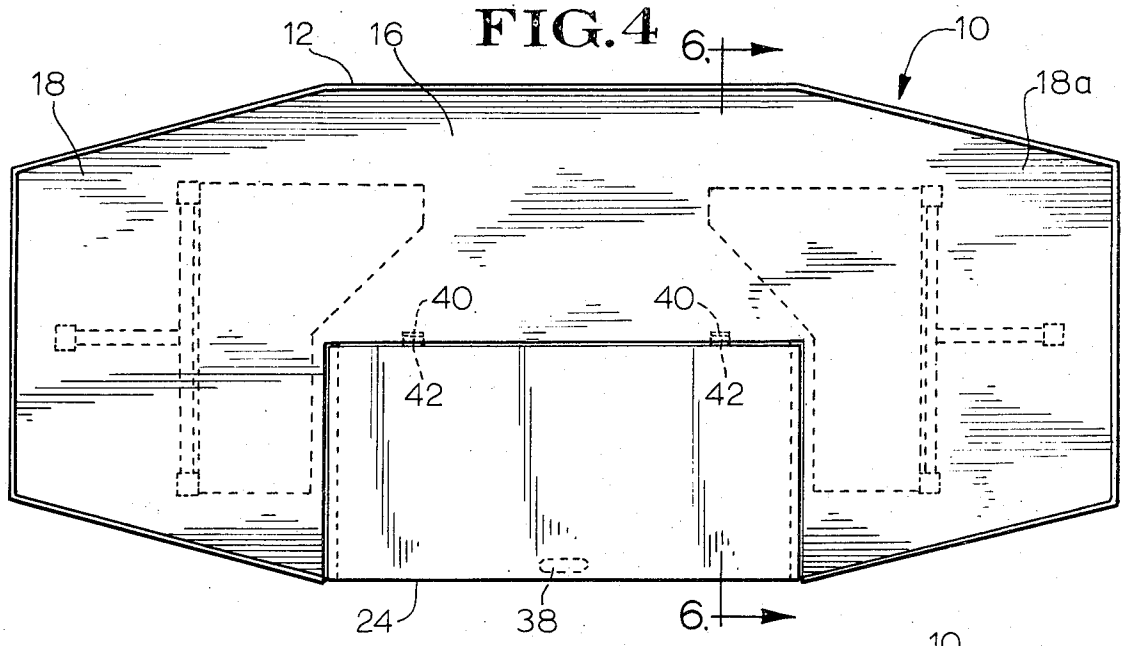


FIG. 5

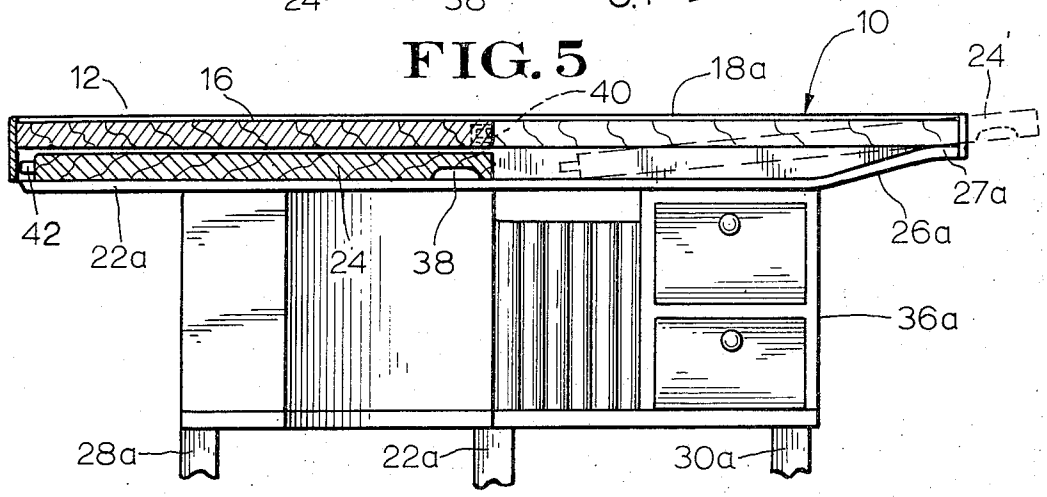
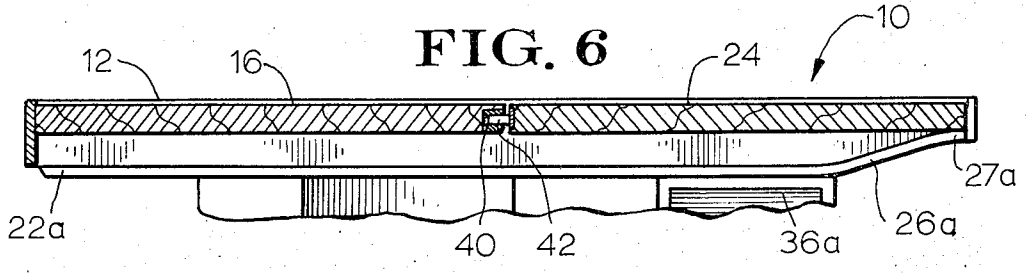


FIG. 6



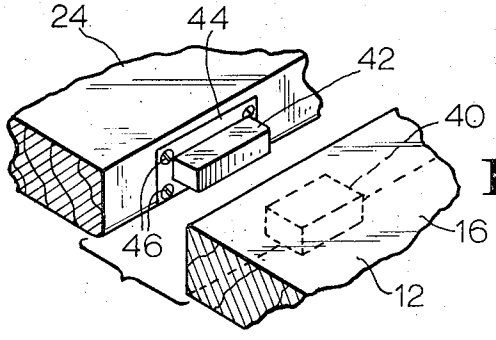


FIG. 7

CONVERTIBLE DESK AND CONFERENCE TABLE

The present invention relates to a convertible desk and conference table which can be utilized in either a desk configuration or in a conference table configuration and includes a structure for facilitating the conversion of the convertible desk and conference table from one configuration to another.

More particularly, the invention relates to a convertible desk and conference table having a table-top surface including a central section and a pair of wing sections extending along and rearwardly of the central section to define an open area adjacent the rear edge of the central section of the convertible desk and conference table. A leaf conforming in shape to the open area of the table-top surface is utilized for filling the open area when the convertible desk and conference table is in the conference table configuration. Means is provided for storing the leaf beneath the central section of the table-top surface and for permitting the leaf to be moved into the open area of the table-top surface to form the conference table configuration.

One aspect of the convertible desk and conference table embodying the present invention is that the conversion from the desk configuration to the conference table configuration can be performed without removing or disturbing materials which are located on the desk. Also, the convertible desk and conference table embodying the present invention can be changed from the conference table configuration to the desk configuration without distrubing the materials on the desk portion of the convertible desk and conference table.

Convertible units of furniture which can be changed from one configuration to another configuration, such as a convertible desk and conference table, often require complex linkages to perform the conversion. These linkages take up space within the convertible furniture unit and make more difficult the manufacture of the convertible furniture unit. Additionally, the complex linkages typically require precise alignment and may become inoperative or difficult to operate if misaligned. The convertible desk and conference table of the present invention overcomes these difficulties by providing a structure for performing the conversion from one configuration to another configuration which has a minimum of moving parts and is not susceptible to misalignment.

Other aspects and objects of the present invention will become evident from the detailed description and the drawings which demonstrate one form of the invention, in which drawings:

FIG. 1 is a perspective view of a convertible desk and conference table embodying the present invention in a desk configuration;

FIG. 2 is an elevational sectional view of the convertible desk and conference table taken along line 2—2 in FIG. 1;

FIG. 3 is a top view of the convertible desk and conference table of FIG. 1 in a desk configuration and illustrates a chair for use therewith;

FIG. 4 is a top view of the convertible desk and conference table of FIG. 1 in a conference table configuration;

FIG. 5 is a sectional view taken along line 5—5 in FIG. 3;

FIG. 6 is a sectional view taken along line 6—6 in FIG. 4; and

FIG. 7 is a detail view illustrating a form of connection used in the convertible desk and conference table of FIG. 1.

Referring to drawings, a convertible desk and conference table embodying the present invention is indicated generally by the numeral **10**. The convertible desk and conference table **10** is generally U-shaped and in the desk configuration has an open area **20** for receiving a chair **21**. A leaf **24** is located beneath the convertible desk and conference table **10** in the desk configuration, with the leaf being removed and placed in the open area **20** in the conference table configuration, shown in FIG. **4**.

The convertible desk and conference table **10** includes a table-top surface **12** supported by pillar structure **14** and **14***a*. The table-top surface **12** includes a central section **16** and a pair of wing sections **18** and **18***a* which extend along and to the rear of the central section **12** to define the open area **20**. The open area **20**, as best illustrated in FIG. **3**, is preferably rectangular in shape and receives the chair **21**. The open area **20** serves as a work area for a person using the convertible desk and conference table **10** in the desk configuration. The leaf **24** has a shape conforming to the open area **20** and is disposed beneath the central section **16** of the table-top surface **12** on L-shaped guides **22** and **22***a* when the convertible desk and conference table **10** is arranged in the desk configuration illustrated in FIGS. **1**,**2** and **3**.

In order to change the convertible desk and conference table **10** from the desk configuration to the conference table configuration illustrated in FIGS. **4** and **6** the leaf **24** is grasped and pulled rearwardly along the guides **22** and **22***a*. The leaf **24** engages camming ramps **26** and **26***a* and is raised upward by the ramps to the table-top surface **12**. The location of the leaf in an intermediate position as it is raised by the ramps **26** and **26***a* is shown in phantom in FIG. **5** and indicated by the number **24'**. The leaf **24** is then joined with the central section **16** of the table-top surface **12**, in a manner to be detailed, to complete the change to the conference table configuration.

The convertible desk and conference table **10** is changed from the conference table configuration to the desk configuration by disengaging the leaf **24** from the central section **16** of the table-top surface **12** and placing the leaf **24** on the guides **22** and **22***a*. The leaf **24** is then moved forwardly, down the camming ramps **26** and **26***a*, and along the guides **22** and **22***a* to the position beneath the central section **16** of the table-top surface **12**.

Referring to FIG. **1**, the pillar structure **14** preferably includes a front interior leg **28**, a rear interior leg **30** and an outer leg **32**, each of which are vertically disposed and connected to the wing section **18** of the table-top surface **12**. A T-bar support **34** is connected to the lower portions of the front interior leg **28**, the rear interior leg **30** and the outer leg **32** to strengthen the legs and provide structural rigidity to the pillar structure **14**.

The pillar structure **14** formed from the interior leg **28** and **30**, the outer leg **32** and the T-bar support **34** provides a particularly suitable structure for supporting the wing section **18** of the table-top surface **12**. However, other structural arrangements can be used to form the pillar structure **14**. For example, the front interior leg **28** and the rear interior leg **30** could be uti-

lized alone without the outer leg **34** to form the pillar structure **14.** If desired a support bar could connect the lower portion of the legs **28** and **30.** Thus, the invention is not limited to any particular arrangement for the pillar structure **14** and various types of structure can be utilized to support the wing section **18** of the table-top surface **12.**

The wing section **18***a* of the table-top surface **12** is supported by the pillar structure **14***a* which is substantially identical to the pillar structure **14.** The elements of the pillar structure **14***a* are indicated with the same numerals as are the corresponding elements of the pillar structure **14** with the exception that the letter *a* is added to the numerals identifying the elements of the pillar structure **14***a*. Thus, the T-bar support **34***a* of the pillar structure **14***a* corresponds to the T-bar support **34** of the pillar structure **14** and performs the same function as the T-bar support **34.**

A storage compartment **36***a* may be provided beneath the wing section **18***a* and the central section **16** of the table-top surface **12.** The storage compartment **36***a* is coupled to the front interior leg **28***a* and the rear interior leg **30***a* of the pillar structure **14***a* and may also be coupled to the underside of the table-top surface **12.** A similar storage compartment **36** may be provided beneath the wing section **18** and the central section **16** of the table-top surface **12** and is similarly coupled to the front interior leg **28** and the rear interior leg **30** of the pillar structure **14.** The storage compartment **36** may also be coupled to the underside of the table-top surface **12.** The extent and capacity of the storage compartments **36** and **36**a can be varied to meet the requirements for a given application of the convertible desk and conference table **10.**

If desired a communication center could be installed in one of the storage compartments **36** and **36***a* to provide a compact installation for this equipment which is typically used with a desk. By installing the communications center in one of the storage compartments **36** and **36***a* the communication equipment such as a telephone need not be placed on the table-top surface **12.** This results in better utilization of the working area on the convertible desk and conference table **10.**

Referring to FIGS. **2** and **3** the L-shaped guides **22** and **22***a* operate to horizontally and vertically retain the leaf **24** beneath the central section **16** of the table-top surface **12.** The guides **22** and **22***a* are arranged in complement with each other and extend rearwardly from the central section **16** to the camming ramps **26** and **26***a*, respectively. The vertical sides of the guides **22** and **22***a* confine the horizontal movement of the leaf **24** while the horizontal legs of the guides **22** and **22***a* provide vertical support for the leaf **24.**

The camming ramps **26** and **26***a* are disposed adjacent the side edges of the wing sections **18** and **18***a*, respectively, of the table-top surface **12** and are utilized to raise the leaf **24** upward to the table-top surface **12.** The profile of the camming ramp **26***a* is best illustrated in FIGS. **5** and **6.** The profile of the camming ramp **26** is a mirror image of the camming ramp **26***a* and in other respects is substantially identical to the profile of the camming ramp **26***a*.

In order to facilitate grasping of the leaf **24** during changing of the convertible desk and conference table **10** from the desk configuration to the conference table configuration a recessed portion **38** is provided in the leading edge of the leaf **24.** Preferably, the recessed portion **38** is centrally located between the sides of the leaf **24.** The central location of the recessed portion **38** permits a balanced force to be applied to the leaf **24** and thereby prevent turning and consequent jamming of the leaf **24** as it is pulled along the guides **22** and **22***a*.

The rear edge of the central section **16** of the table-top surface **12** includes mortises **40** for mating with tenons **42** located on the trailing edge of the leaf **24** when the convertible desk and conference table **10** is placed in the conference table configuration. A typical construction of the mortise **40** on the central section **16** of the table-top surface **12** and the tenon **42** on the leaf **24** is shown in FIG. **7.** The tenon **42** can comprise a rectangular fitting **44** having base edges which are coupled to the leaf **24** by suitable fasteners **46.** Alternatively, the tenon **42** could comprise a rectangular bar which is wedges into a rectangular aperture in the leaf **24.** The tenon **42** mates with the mortise **40** and forms a mortise and tenon joint to provide a support means holding the leaf **24** in abutment with the central section **16** of tee table-top surface **12.**

Other structures could be utilized to hold the leaf **24** in abutment with the central section **16** of the table-top surface **12** and the invention is not limited to the use of any particular support means for holding the leaf **24** in abutment with the central section **16** of the table-top surface **12.** For example, dowels could be affixed in the trailing edge of the leaf **24** for mating with circular aperture in the central section **16** of the table-top surface **12.** Also, support tabs (not shown) could be arranged adjacent the side edges of the wing sections **18** and **18***a* and the rear edge of the central section **16** of the table-top surface **12** for engaging the bottom portion of the leaf **24** and holding the leaf in abutment with the central section **16** of the table-top surface **12.**

The convertible desk and conference table **10** is changed from the desk configuration to the conference table configuration by grasping the recessed portion **38** of the leaf **24** and moving the leaf rearwardly along the guides **22** and **22***a* to the camming ramps **26** and **26***a*. As the leaf **24** continues to be moved rearwardly the camming ramps **26** and **26**a raise the leaf **24** upward to the table-top surface **12.** When the leaf achieves the position shown in phantom in FIG. **5** and indicated by the numeral **24'**, a downward force is applied to the leading edge of the leaf to rock the leaf on elevated portions **27** and **27***a* adjacent the camming ramps **26** and **26***a*, respectively. The leaf **24** can also be lifted from below to aid in raising the trailing edge of the leaf. The leaf **24** is then moved forwardly and the tenons **42** in the trailing edge of the leaf mate with the mortises **40** in the central section **16** of the table-top surface **12.** Thus, in the conference table configuration of the convertible desk and conference table **10,** the leaf **24** is supported by the elevated portions **27** and **27***a*, and the mortises **40** and tenons **42** which form the support means for holding the leaf **24** in abutment with the central section **16** of the table-top surface **12.**

The convertible desk and conference table **10** is returned from the conference table configuration to the desk configuration by moving the leaf **24** rearwardly to disengage the moritses **40** from the tenons **42,** and lowering the trailing edge of the leaf **24** to the guides **22** and **22***a*. The leaf **24** is then moved forwardly along the guides **22** and **22**a and is lowered by the camming ramps **26** and **26***a*. The forward movement of the leaf **24** along the guides **22** and **22***a* continues until the leaf

is in place beneath the central section 16 of the table-top surface 12.

It is to be understood that various modifications can be made to the disclosed convertible desk and conference table without departing from the scope of the invention, 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 convertible desk and conference table comprising:

a generally U-shaped table-top surface including a central section having a rear edge and a pair of wing sections extending along and rearwardly of the central section to define an open area in said table-top surface, said wing sections each having a side edge along said open area, said table-top surface providing a working surface for use as a desk and as a conference table;

a leaf conforming in shape to the open area of said table-top surface and providing a relocatable working surface in a conference table configuration of said convertible desk and conference table;

means for supporting said leaf beneath the central section of said conference table and directing said leaf into position in said open area, said means engaging the lateral edges of said leaf and being operative to change said convertible desk and conference table from a desk configuration to a conference table configuration and from a conference table configuration to a desk configuration;

said means for supporting and directing said leaf including guide means for vertically and horizontally supporting said leaf beneath the central section of said table-top surface, said guide means including a pair of guides, the guides being arranged in complement with each other;

camming ramp means for raising said leaf upward to said table-top surface, said camming ramp means being associated with the side edges of said wing sections; and

support means for holding said leaf in abutment with the rear edge of the central section of said table-top surface.

2. A the convertible desk and conference table of claim 1 wherein said pillar means includes at least two pillar structures, one of said pillar structures being disposed beneath each of said wing sections.

3. The convertible desk and conference table of claim 2 wherein each of said pillar structures includes at least two vertically disposed legs, said legs being connected to a bottom portion of said wing sections of said table-top surface.

4. The convertible desk and conference table of claim 1 wherein said support means for holding said leaf includes a mortise in the rear edge of the central section of said table-top surface and a tenon in said leaf, said tenon mating with said mortise.

5. The convertible desk and conference table of claim 1 wherein the open area of said table-top surface is generally rectangular in shape.

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