United States Patent [19]

Levenberg

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[54] **RAPID ASSEMBLY TABLE CONSTRUCTION**

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[52] **U.S. Cl.** **108/157,** 312/263

[51] **Int. Cl.** **A47b 3/06**

[58] **Field of Search** ..... 312/257 R, 257 SK, 257 A, 312/195, 263; 108/153, 157

[56] **References Cited**

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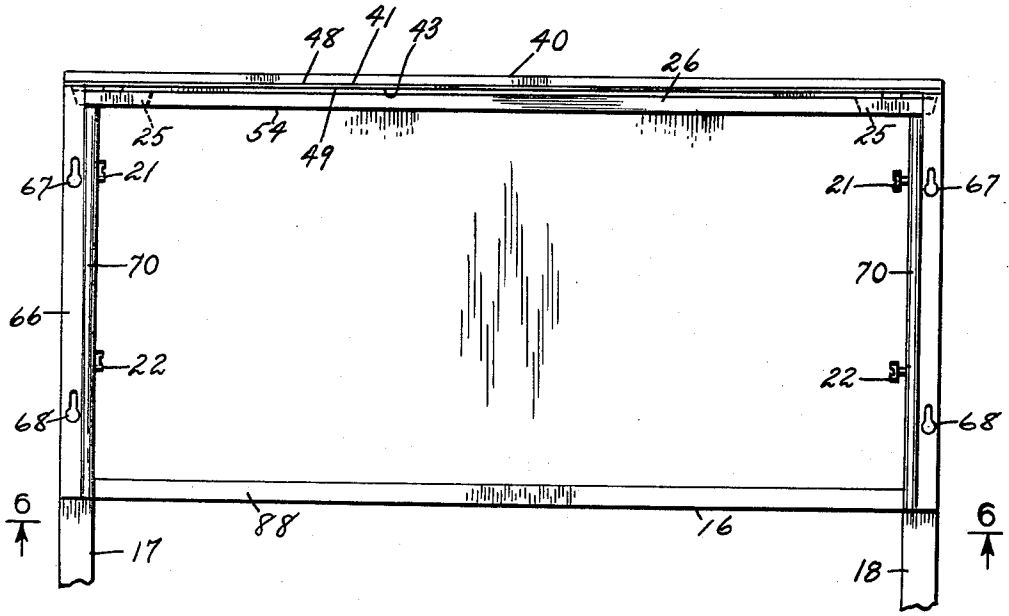
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Primary Examiner—Paul R. Gilliam
Assistant Examiner—Darrell Marquette
Attorney, Agent, or Firm—Charles E. Temko

[57] **ABSTRACT**

A rapidly assemblable table construction in which the top, side and front elements are conveniently integrated from separated condition in the absence of tools, thereby enabling the table to be stored or shipped with the separated elements in superimposed condition. When in assembled condition, locking means associated with a top panel operates to prevent disengagement of plural interconnecting means, and assures rigidity of the composite structure.

1 Claim, 7 Drawing Figures



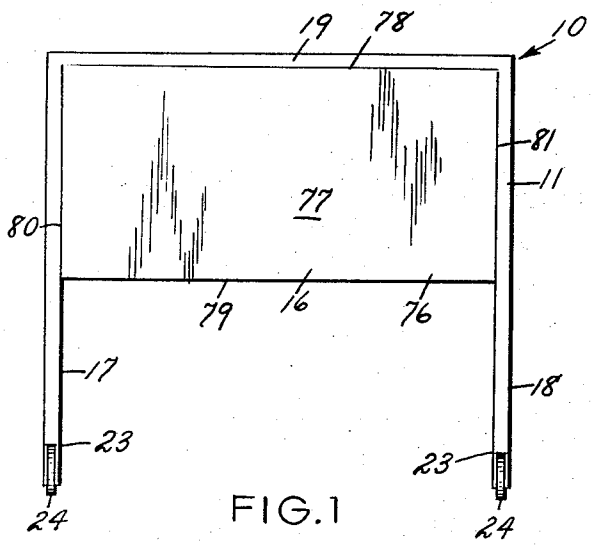


FIG. 1

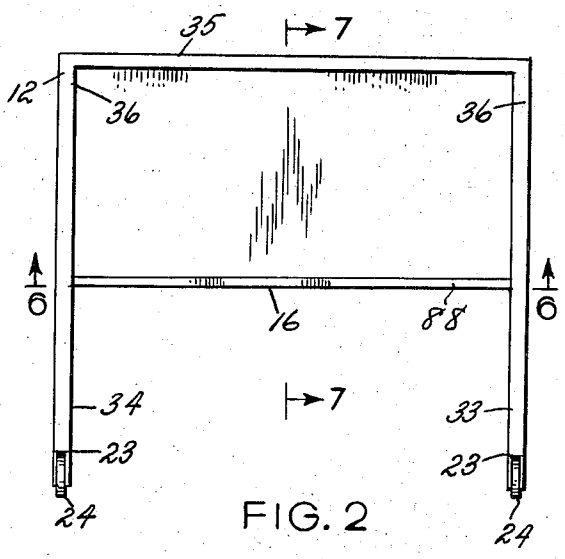


FIG. 2

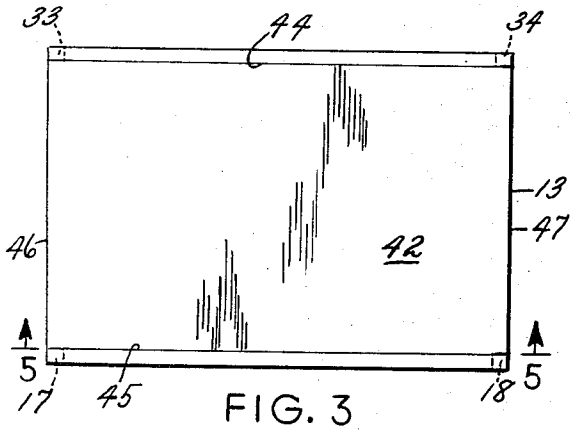


FIG. 3

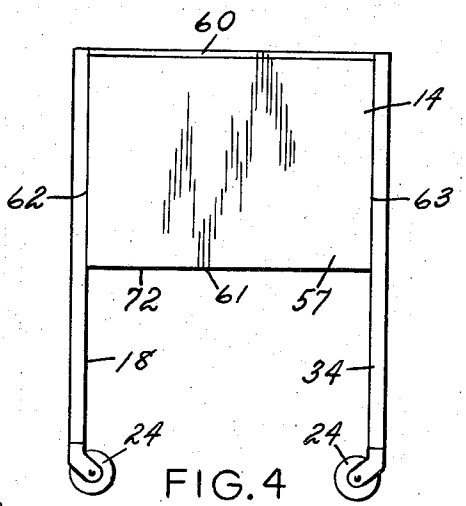


FIG. 4

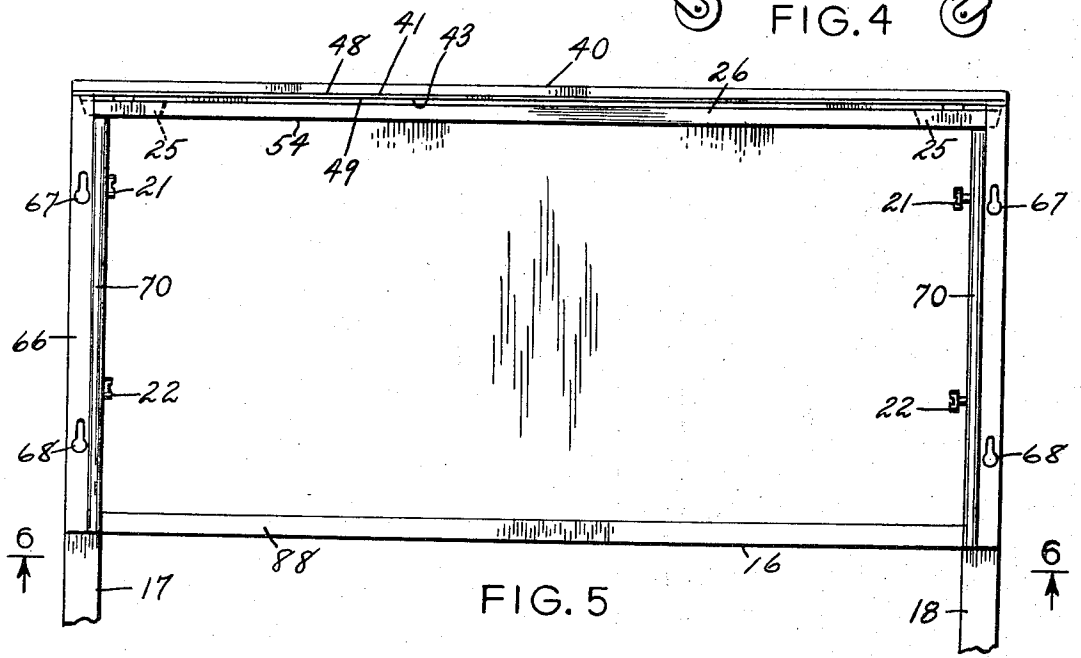


FIG. 5

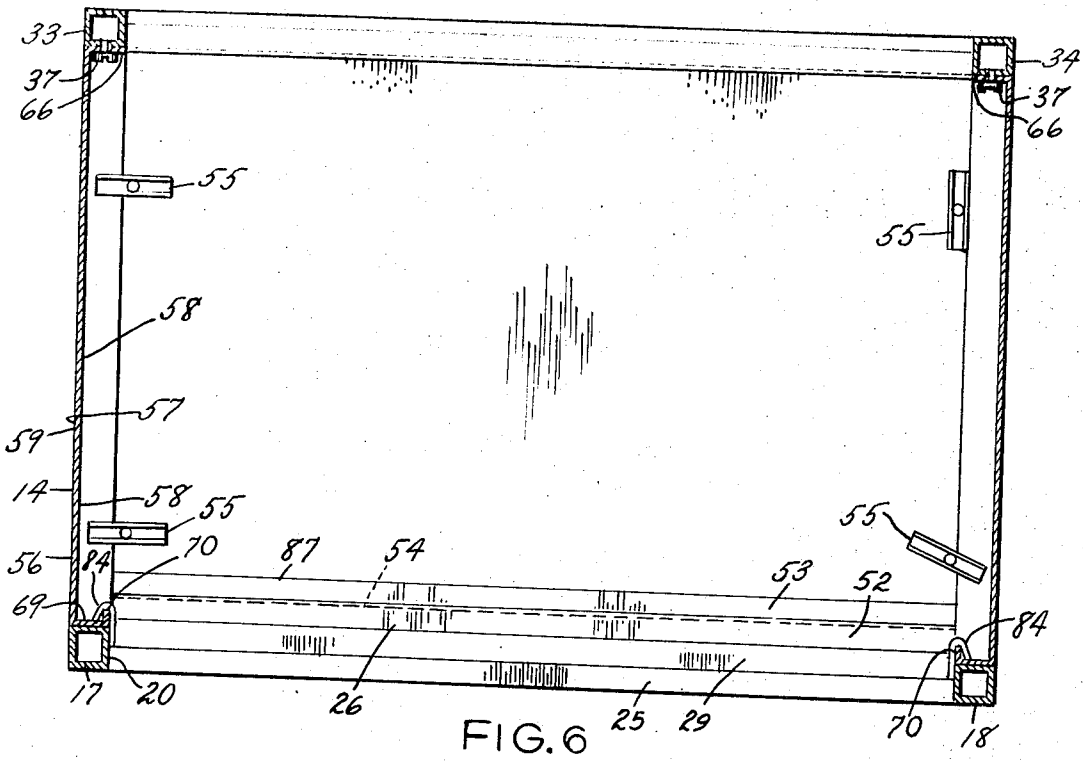

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FIG. 6

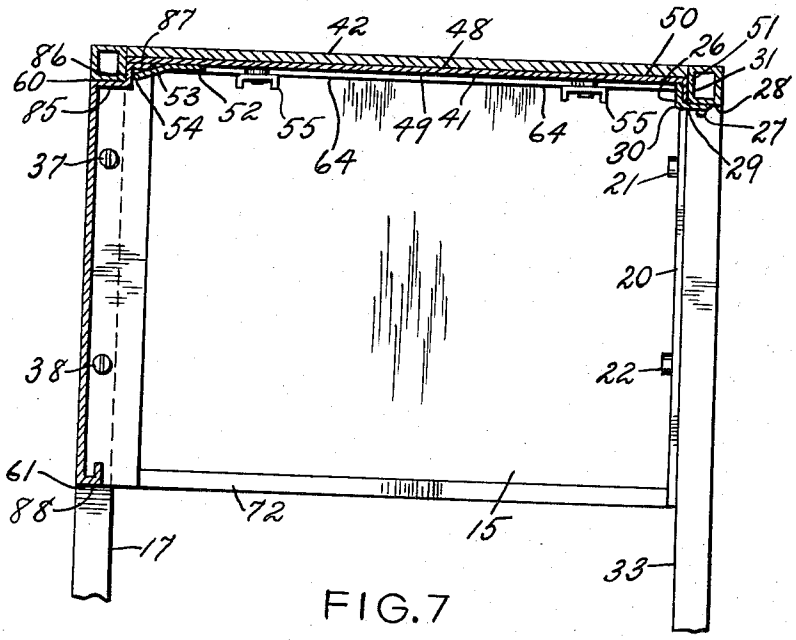

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FIG. 7

RAPID ASSEMBLY TABLE CONSTRUCTION

This invention relates generally to the field of lightweight metallic tables and similar constructions, which find use as typewriter supports and the like. More particularly, it relates to devices of this type which may be conveniently assembled from knocked-down condition without resort to even simple tools.

BRIEF DESCRIPTION OF THE PRIOR ART

Knocked-down table constructions of this general type are well known in the art, in most cases the component parts thereof being assembled by means of nuts and bolts extending through abutted parts. While tables of this type are relatively sturdy, they are not easily assembled, and where the devices are shipped to a user in knocked-down condition, the user is not always willing to assemble the device where it involves more than ordinary complication. On the other hand, the high cost of shipping such devices in assembled condition over long distances, often approximates the entire value of the device itself, so that as a practical matter, only knocked down shipping is practised in the industry.

BRIEF DESCRIPTION OF THE PRESENT INVENTION

Briefly stated, the invention contemplates the provision of a disassemblable table in which the component parts are interlocked in a progressive or serial fashion in such manner that each successive interconnection prevents disengagement of a previous connection, the final connection being accomplished by means of concealed rotary locking means which not only prevents disengagement of the previously engaged parts, but provides for improved rigidity of the entire structure. This is accomplished, for the most part, by providing the interlocking components with corresponding tongue and groove interconnections, and subsequently fitting other parts which overly the previously interconnected parts.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings, to which reference will be made in the specification, similar reference characters have been employed to designate corresponding parts throughout the several views.

FIG. **1** is a front elevational view showing an assembled embodiment of the invention.

FIG. **2** is a rear elevational view thereof.

FIG. **3** is a top plan view thereof.

FIG. **4** is an end elevational view thereof.

FIG. **5** is an enlarged fragmentary sectional view as seen from the plane **5—5** in FIG. **3.**

FIG. **6** is a horizontal sectional view as seen from the plane **6—6** in FIG. **5.**

FIG. **7** is a vertical sectional view as seen from the plane **7—7** in FIG. **2.**

DETAILED DESCRIPTION OF THE DISCLOSED EMBODIMENT

In accordance with the invention, the device, generally indicated by reference character **10,** comprises broadly: a first or front frame element **11,** a second or rear frame element **12,** a top panel element **13,** first and second side panel elements **14** and **15,** respectively, and a front panel element **16.**

The front frame element **11** includes first and second leg members **17–18,** interconnected at the upper ends thereof by a horizontal member **19.** These members are preferably formed from hollow metallic tubing, suitably welded or otherwise interconnected. Each leg element **17–18** includes an inner surface **20** from which upper and lower screw heads **21–22** project. The lower ends **23** thereof may be provided, optionally, with conventional casters **24.** The horizontal member **19** includes an inner surface **25** partially covered by a lip member **26** secured by suitably means such as welding or screws **27** to a lower surface **28.** The lip member includes a horizontal mounting portion **29** and a vertical member **30** defining an elongated interstice **31** (see FIG. **7**).

The rear frame element **12** is of corresponding size, and includes first and second leg members **33–34** interconnected to a horizontal member **35** at the upper ends **36** thereof. Screws **37** provide means for interconnecting the front panel element **16** to be described hereinafter.

The top panel element **13** includes an upper lamina **40** of plywood or fiberboard, and a lower metal lamina **41** of co-extensive dimensions. The upper lamina **40** includes an upper surface **42,** which may be covered with a decorative material, a lower surface **43,** longitudinal edges **44** and **45** and end edges **46** and **47.** The lower lamina **41** is bounded by a normally concealed inner surface **48** and an exposed lower surface **49.** One end **50** is provided with a downwardly turned lip portion **51** adapted to engage the interstice **31** when the device is assembled. A separately welded sheet metal member **52** includes a curved lip **53** having a free edge **54.** Rotary fasteners **55** (FIGS. **6** and **7**) pivoted on member **41** serve to secure the top panel element **13** in assembled condition between the frame elements **11** and **12.**

The side panel elements **14–15** are substantially similar and symmetrically configured, each including a planar main wall **57** bounded by an inner surface **58** (FIG. **6**), an outer surface **59,** (FIG. **7**), an upper edge **60,** a lower edge **61,** and side edges **62–63.** An upper flange **64** provides a support upon which the top panel element **13** rests. An inner end flange **66** is provided with upper and lower keyhole openings **67–68** permitting engagement with the screw heads **22,** and a laterally extending projection **69** provides for engagement with the front panel element **11,** by way of an angularly disposed lip **70.** A lower edge flange **72** prevents the appearance of a sharp edge on the exterior of the panel.

The front panel element **16** is preferably permanently attached to the front frame element **11,** by means of screws. It includes a front wall **76** having a forward surface **77,** a top edge **78,** a bottom edge **79,** and side edges **80** and **81.** Rearwardly extending flanges **82** are engaged by screw means **37** and **38** (FIG. **7**). A rearwardly extending top flange **85** communicates with a vertical flange **86,** in turn communicating with a second rearwardly extending flange **87.** A lower flange **88** prevents the occurrence of sharp edge.

Assembly of the device is a relatively simple matter. Holding the integrated front frame and front panel elements **11** and **16** in one hand, the side panel elements **14** and **15** are engaged by projecting the lip **70** of each into the interstice formed by the corresponding lip **84.** This engagement commences with the side panel elements lying in parallel relation to the plane of the front panel element, followed by a **90** degree rotation to re-

sult in the side panel elements extending rearwardly from the rear surfaces of the front leg members.

Next, the rear frame element **12** is engaged by engaging the screw heads within the upper and lower keyhole slots **67–68.** Following this operation, the top panel element **13** is engaged by first engaging the free edge **54** beneath the flange **87,** and abutting the inner surface of the flange **86.** With a clockwise pivotal motion, as seen in FIG. **7,** the lip **51** is positioned within the interstice **31,** which will result in the upper surface **42** being placed in co-planar relation with respect to the upper surface of the horizontal members **19** and **35.** In this condition, the rotary fasteners **55** are moved from the position shown in the upper right hand portion of FIG. **6** to the positions shown in the upper and lower left hand portions of the same figure to lock the top panel element **13** in position. Once this locking action has been accomplished, the side panel elements **15** have no available room in which to disengage themselves from the keyhole openings **67–68,** and thus disengagement of the lips **70** is also effectively prevented.

Should it be desired to disassemble the table, the reverse of the above procedure is followed, following which the component elements may be stacked in co-planar relation for storage or subsequent packing and shipping.

I wish it to be understood that I do not consider the invention limited to the precise details of structure shown and set forth in this specification, for obvious modifications will occur to those skilled in the art to which the invention pertains.

I claim:

1. A rapid assembly table construction comprising: a first frame element having first and second leg members and a mutually interconnected horizontally disposed member, a front panel element interconnected to said first frame element and having lip means positioned parallel to the principal axis of each leg member thereon; a pair of side panel elements, each having an edge having corresponding lip means swingably engaged with said lip means on said first frame element with the principal plane of said side panel elements extending substantially perpendicular to the principal plane of said first frame element, said side panel elements each having an oppositely disposed edge flange having openings therein; a second frame element including third and fourth leg members and an interconnecting horizontally disposed member, said third and fourth leg members having projections thereon selectively slidably engaged within said openings; a top panel element having means engaging said then interconnected front and rear frame elements, and locking means on said top element engaging said side panel elements to prevent disengagement of said top panel element from said side panel elements, and simultaneously preventing relative movement of said side panel elements with respect to said first and second frame elements.

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