July 16, 1963 L. ROSS 3,097,615

FURNITURE CONSTRUCTION

Filed Sept. 27, 1961

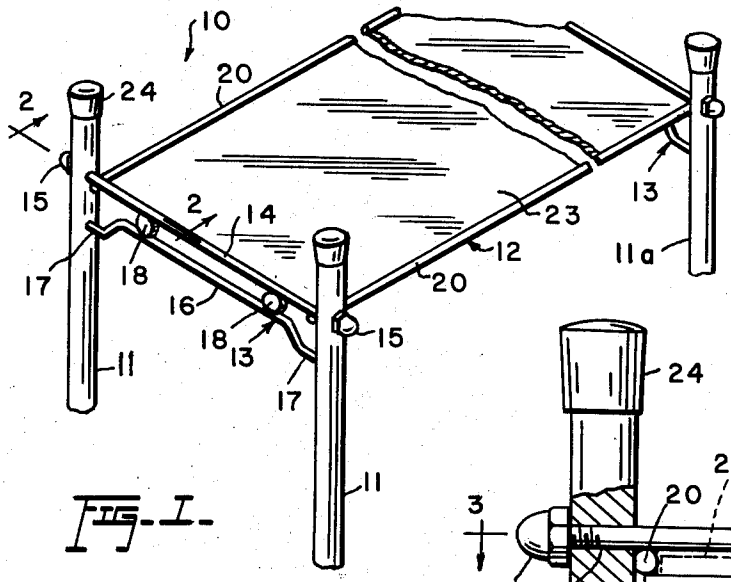


FIG. 1.

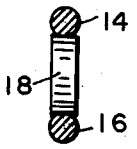


FIG. 4.

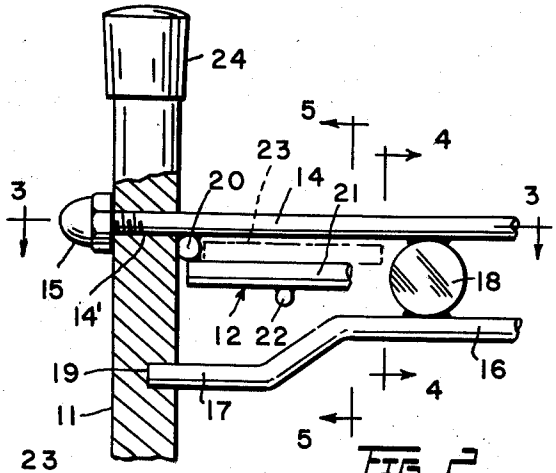


FIG. 2.

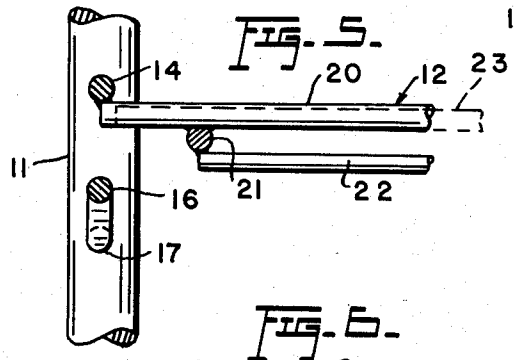


FIG. 5.

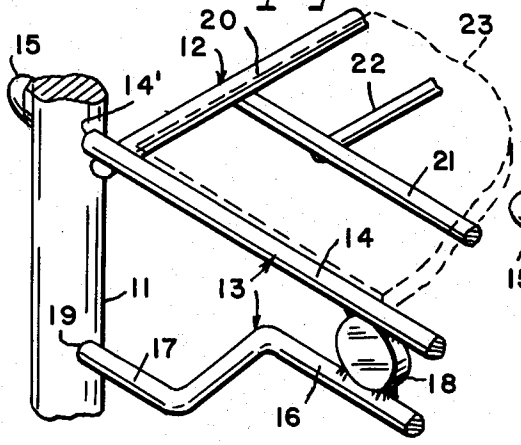


FIG. 6.

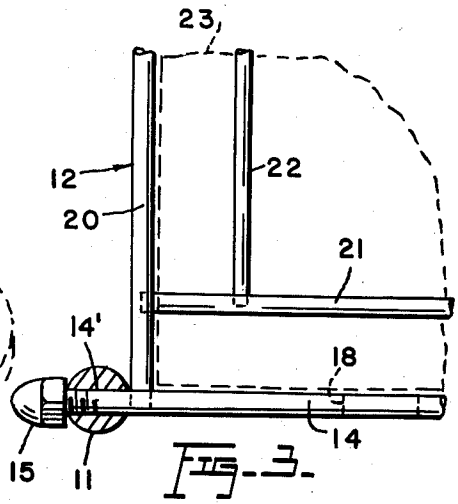


FIG. 3.

Inventor:
Lon Ross

United States Patent Office 3,097,615 Patented July 16, 1963

3,097,615

FURNITURE CONSTRUCTION

Lon Ross, East Rockaway, N.Y., assignor to Maurice Duchin Creations, Inc., New York, N.Y., a corporation of New York

Filed Sept. 27, 1961, Ser. No. 141,048
1 Claim. (Cl. 108—155)

This invention relates to new and useful improvements in articles of furniture such as bookcases, shelves, tables, stands and many other similar items which embody in their construction a set of vertical legs or uprights and a horizontal top or one or more horizontal shelves which are supported by the uprights or legs. More particularly, the invention concerns itself with furniture of this type wherein the top or shelves may be assembled with the uprights or legs by the simple use of ordinary retaining means such as nuts, or the like, and without requiring any skill or complicated factory assembly procedures, so that items of furniture in accordance with the invention may be compactly and inexpensively shipped in a knocked-down form and quickly and easily assembled by a purchaser or user.

It is, therefore, the principal object of the invention to provide improved means for connecting and securing a furniture top or shelf to the uprights in a manner which permits knocked-down packing and shipment of the parts as well as an expeditious "do-it-yourself" assembly without the requirement for special tools or skill.

Another important object of the invention is to provide for a substantial amount of rigidity in the connection between the top or shelf and the uprights, such a connection having a two-fold purpose wherein the uprights support the shelf or top in a horizontal position while the top or shelf prevents displacement of the uprights from the vertical.

Some of the advantages of the invention apart from those already mentioned reside in its simplicity of construction, aesthetic appearance, durability, and in its adaptability to convenient and economical manufacture.

With the foregoing more important objects and features in view and such other objects and features as may become apparent as this specification proceeds, the invention will be understood from the following description taken in conjunction with the accompanying drawings, wherein like characters of reference are employed to designate like parts, and wherein:

FIGURE 1 is a fragmentary perspective view showing a a portion of an article of furniture constructed in accordance with the invention;

FIGURE 2 is an enlarged fragmentary vertical sectional view, taken substantially in the plane of the line 2—2 in FIGURE 1;

FIGURE 3 is a fragmentary horizontal sectional view, taken substantially in the plane of the line 3—3 in FIGURE 2;

FIGURE 4 is a vertical sectional detail, taken substantially in the plane of the line 4—4 in FIGURE 2;

FIGURE 5 is a fragmentary vertical sectional view, taken substantially in the plane of the line 5—5 in FIGURE 2; and

FIGURE 6 is a fragmentary perspective view of the subject matter shown in FIGURES 2 and 3.

Referring now to the accompanying drawings in detail, the general reference numeral **10** designates an article of furniture which, for example, may be a bookcase, a table, a stand, a room divider, or the like, the same including a pair of spaced uprights or legs **11** and a top or shelf **12**, which is horizontally disposed. It will be understood that the member **12** may be the table top if the furniture item is a table or a stand, or it may be one of several shelves

of a bookcase, or a shelf spaced below the top of a table, as is well known in the art.

The invention concerns itself primarily with the provision of means, designated generally by the numeral **13**, for securing the member **12** to the uprights **11** so that the uprights support the member **12** in a horizontal position and at the same time the member **12** serves to prevent displacement of the uprights from the vertical. It will be also understood that the member **12** may be secured along its length to other uprights spaced from the uprights **11**, one of such other uprights being indicated at **11***a* in FIGURE 1. Since the connection means **13** between the member **12** and the uprights in each pair is the same, a description of one of the means **13** will suffice for all.

Although the construction of the member **12** will be hereinafter detailed, for purposes of immediate explanation the member **12** may be regarded in the form of a simple panel or shelf-like element, either solid or of open framework. As such, the member **12** is provided with a horizontal, transversely extending rod **14** which projects laterally beyond the side edges of the member **12** and passes through transverse apertures **14'** formed in the uprights **11**. The end portions of the rod **14** are screw-threaded and suitable nuts **15** are applied thereto at the outside of the uprights and in abutment with the latter. If only the arrangement so far described were employed for attaching the member **12** to the uprights **11**, it is obvious that the member **12** could turn in a vertical plane about the axis of the rod **14** and that the uprights **11** could be displaced from the vertical, even if several of the members **12** were connected to the uprights and even if several sets of uprights were provided, since a parallelogram folding action of the entire device would still be possible. However, in order to prevent such action and to facilitate support of the horizontal member **12** by the uprights **11** as well as to safeguard against displacement of the uprights from the vertical, the connecting means **13** also include a second rod **16** which is parallel to and spaced downwardly from the rod **14** and is provided with further downwardly offset end portions which constitute a pair of keeper elements **17**. Intermediate portions of the rods **14**, **16** are rigidly connected together by disc-like spacers **18** which are welded or otherwise secured to and disposed between the two rods, and the free end portions of the keeper elements **17** are inserted in blind sockets **19** which are formed in the uprights **11** at points spaced downwardly from the apertures **14'**. As a result, relative movement of the member **12** and uprights **11** about the axis of the rod **14** is effectively prevented and the member **12** may be quickly and easily assembled with the uprights **11** by simply passing the end portions of the rod **14** through the apertures **14'**, inserting the keeper elements **17** into the sockets **19**, and applying the nuts **15** to the ends of the rod **14**, as will be apparent.

The extent to which the nuts **15** may be tightened on the ends of the rod **14** so as to securely hold the parts assembled may be governed by either or both, abutment of the longitudinal side edges of the member **12** with the inside of the uprights, and/or abutment of the free ends of the keeper elements **17** with the blind inner ends of the sockets **19**. For all practical purposes the uprights **11** may be formed from solid stock, although hollow or tubular material may be used, if so preferred.

As already noted, the member **12** may be in the form of a simple panel or shelf, although as shown in the drawings it is preferred to consist of a pair of spaced longitudinals or rods **20** secured by welding or the like to the underside of the rod **14**, in which event the longitudinals **20** constitute the side edges of the member **12** which abut the inside of the uprights **11**, if so desired in place of or in addition to the abutment afforded by the keeper elements **17** in the sockets **19**. In any event, the longitu-

dinals 20 are connected together by cross bars or rods 21 which are welded or otherwise secured to the underside of the longitudinals, while longitudinal stringers 22 may be secured to and extend between the rods 21, particularly in instances where the member 12 is to have an open framework construction. However, a flat panel 23 of suitable material such as "Masonite" for example, or the like, may be removably positioned on the cross rods 21 between the longitudinals 20 so as to form a component of the shelf or top, the panel 23 being supported against downward displacement by the rods 21, against lateral displacement by the longitudinals 20, and against endwise displacement by the spacers 18 of the connecting means 13.

Suitable caps 24 may be applied to the ends of the uprights 11, if so desired.

While in the foregoing there has been described and shown the preferred embodiment of the invention, various modifications may become apparent to those skilled in the art to which the invention relates. Accordingly, it is not desired to limit the invention to this disclosure, and various modifications and equivalents may be resorted to, falling within the spirit and scope of the invention as claimed.

What is claimed as new is:

In an article of furniture, the combination of a pair of spaced uprights, a horizontally elongated panel-like member, and means connecting said panel-like member to said uprights for support of the panel-like member in a horizontal position by the uprights and for retaining the uprights in a vertical position by the panel-like member, said connecting means comprising a first horizontal rod rigidly secured to and extending transversely of said panel-like member between said uprights, end portions of said rod projecting through transverse apertures formed in the uprights, a second rod spaced vertically from and parallel to said first rod, means rigidly securing intermediate portions of said first and second rods together, end portions of the second rod constituting a pair of rod-shaped keeper elements disposed in vertically spaced parallel relation to the respective end portions of the first rod, said uprights being provided at points spaced vertically from said apertures with sockets receiving said rod-shaped keeper elements, said sockets having blind inner ends in abutment with the ends of said keeper elements, longitudinal side edges of said panel-like member abuting said uprights interiorly of the latter, and retaining elements provided on the end portions of said first rod exteriorly of the uprights to retain the parts assembled.

References Cited in the file of this patent

UNITED STATES PATENTS

967,600	Bernstein	Aug. 16, 1910
1,426,328	Tiffany	Aug. 15, 1922
1,460,928	Tilden	July 3, 1923
1,766,085	Rumer	June 24, 1930
2,521,596	Molla	Sept. 5, 1950
2,679,736	Duchin	June 1, 1954
2,714,540	Diehm	Aug. 2, 1955
2,799,401	Duchin	July 16, 1957
2,829,934	Schulze	Apr. 8, 1958
2,947,587	Navellier	Aug. 2, 1960
2,992,442	Lehman et al.	July 18, 1961

FOREIGN PATENTS

358,826	Germany	Nov. 22, 1935