

Jan. 15, 1952

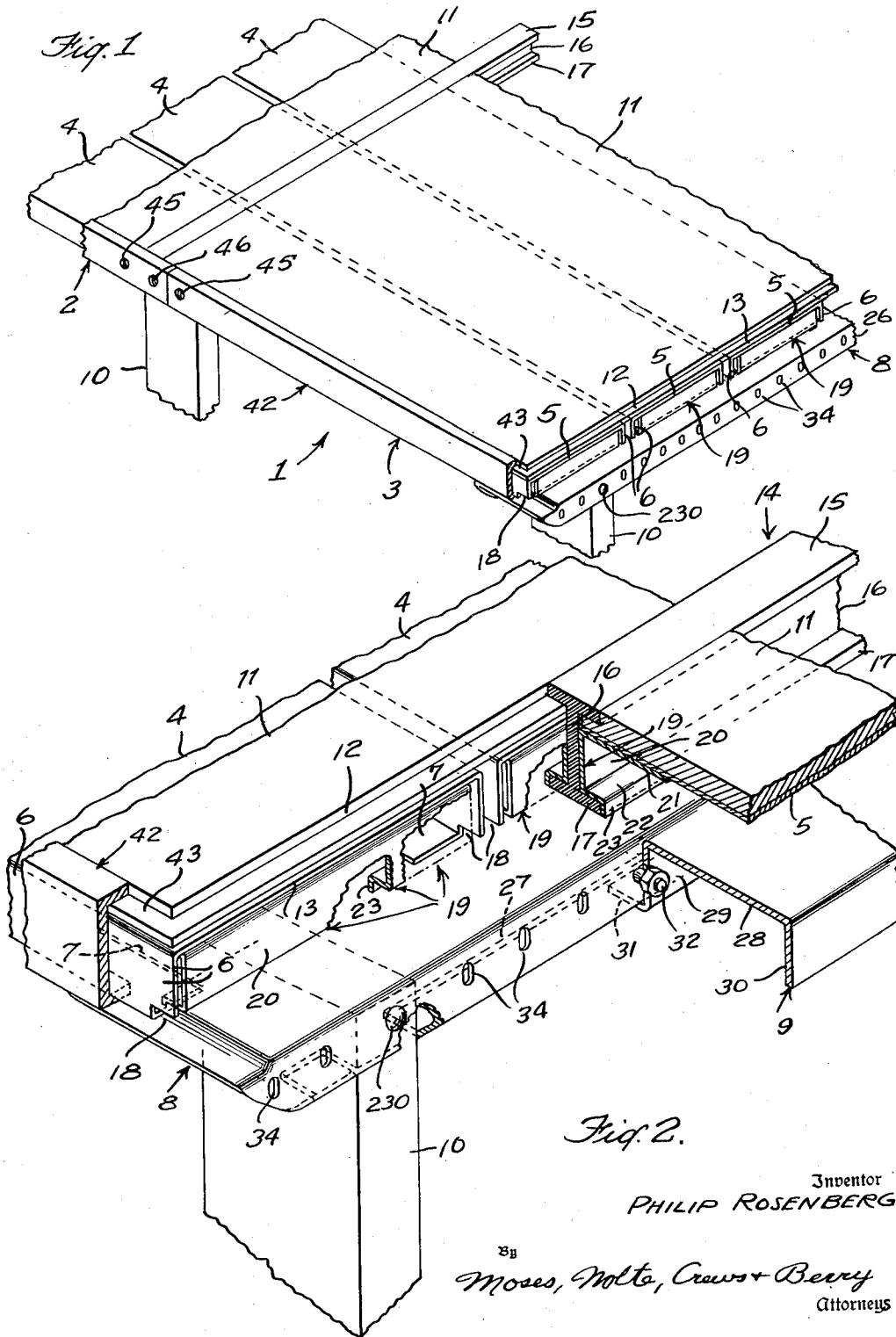
P. ROSENBERG

2,582,935

SECTIONAL WORK CONNECTED TABLE

Filed July 12, 1949

2 SHEETS—SHEET 1



Jan. 15, 1952

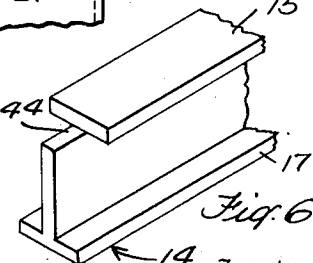
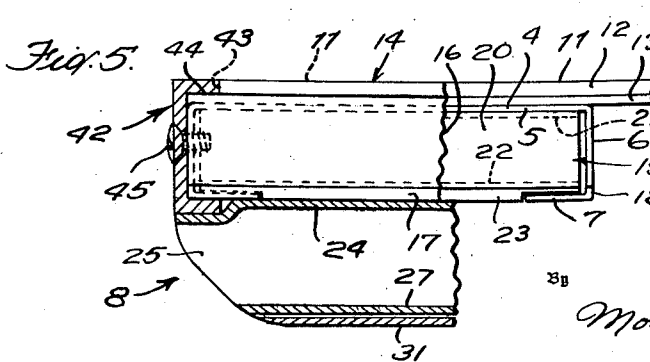
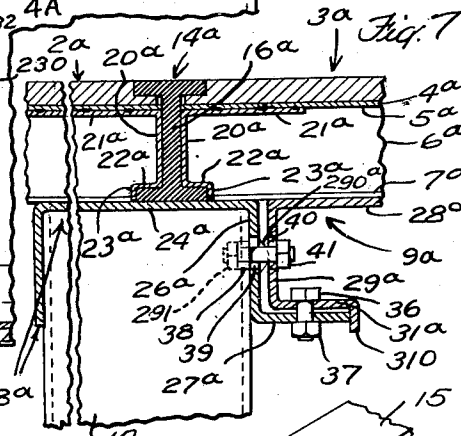
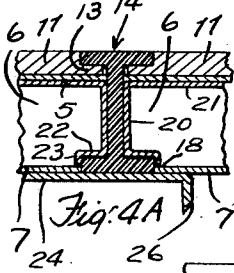
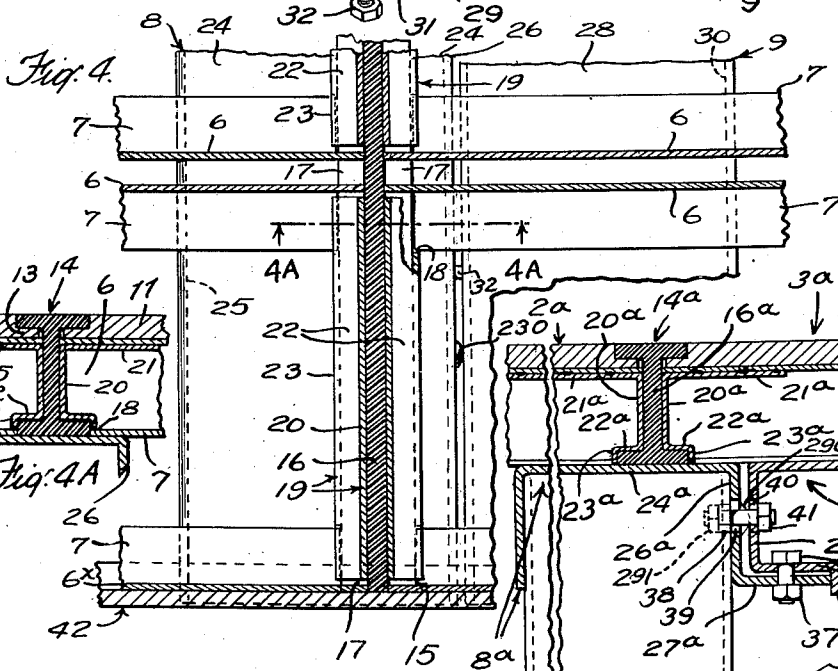
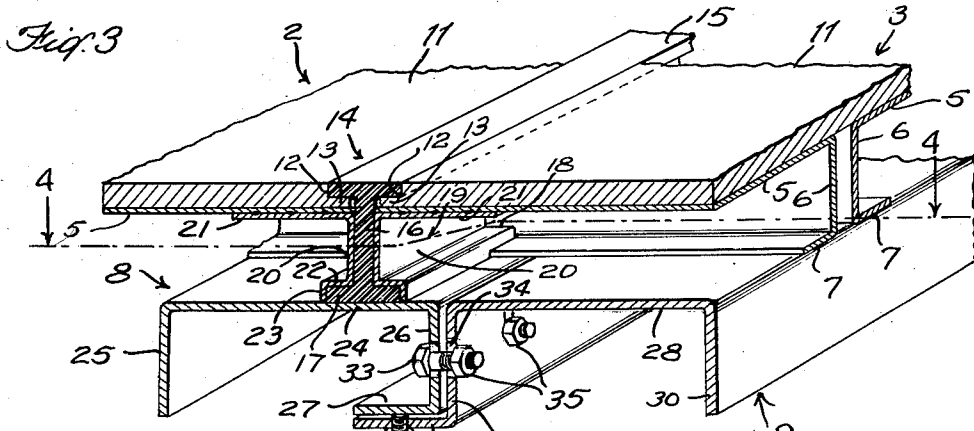
P. ROSENBERG

2,582,935

SECTIONAL WORK CONNECTED TABLE

Filed July 12, 1949

2 SHEETS—SHEET 2



Inventor
PHILIP ROSENBERG
Moses, Nolte, Cross & Berry
Attorneys

UNITED STATES PATENT OFFICE

2,582,935

SECTIONAL WORK CONNECTED TABLE

Philip Rosenberg, New York, N. Y., assignor to
Universal Steel Equipment Corporation, Long
Island City, N. Y., a corporation of New York

Application July 12, 1949, Serial No. 104,250

9 Claims. (Cl. 311-4)

1

This invention relates to sectional tables of the kind disclosed in Letters Patent of the United States No. 2,327,743, granted to me on August 24, 1943, and particularly to features of table construction having to do with the uniting of the sections to one another.

Tables of the kind referred to commonly include two or more sections, each comprising a metallic frame having a plane metallic top portion and a non-metallic sheet of surfacing material adhered or otherwise suitably secured to the table top.

Because of the difference in thermal expansion of the metallic and non-metallic portions of the table, and also because the material of the surface sheet may be more or less hygroscopic in character while the metallic parts are not, there is a tendency for the surface sheet to creep and pull loose from the metallic portion of the table top, particularly at the ends of the table sections, and hence to produce objectionable bulging or warping of the surface material at the joint between sections.

In Patent 2,327,743 disclosure is made of a form of construction employing a joint bar having channels in its opposite sides at a short distance below the upper surface, each channel of just sufficient width to receive and hold together a reduced end portion of the surface sheet and the immediately adjacent sheet metal portion of the table top. This construction obviated the need for holddown screws, provided opposed holding members under no substantial strain, and located the opposed holding surfaces so near to one another that changes of humidity and temperature could have no material tendency to impose strain upon the bar.

The bar itself was not, however, of especially simple or economical construction. While the head of the bar, designed to lie in rabbets in the upper surface of the cover material, was continuous, the side portions of the body of the bar were made discontinuous to provide clearance for the side walls of the metallic channel members and the intumed flanges thereof, being divided into a series of spaced-apart blocks.

It is a primary object of the present invention to provide a table which has all the advantages of the prior table but which provides a stronger, more durable joint and at the same time avoids the need for employing a joint bar of such expensive construction.

To this end it is a salient feature of the invention that the table construction is so modified that a simple I-shaped joint bar may be

2

fitted and clamped continuously between the abutting table sections.

It is a further important feature that continuous channel formations are provided for receiving and holding the opposite sides of the lower flange of an I-shaped joint bar in a position to ensure that the upper flange will stand flush with the cover material at a height to confine the reduced portions of the cover material while permitting them to creep.

Other objects and advantages will hereinafter appear.

In the drawing forming part of this specification,

Figure 1 is a fragmentary perspective view, partly broken away, showing a sectional table which embodies features of the invention;

Figure 2 is a fragmentary perspective view on a larger scale than Figure 1, showing details of construction of the joint bar and associated parts;

Figure 3 is a fragmentary perspective view, partly in section, showing the table construction at a joint;

Figure 4 is a horizontal sectional view, upon the line 4-4 of Figure 3, looking in the direction of the arrows;

Figure 4A is a fragmentary sectional view, taken upon the line 4A-4A of Figure 4, looking in the direction of the arrows;

Figure 5 is a fragmentary detail sectional view showing a marginal or edge enclosing strip at a joint and parts associated with said strip;

Figure 6 is a fragmentary detail perspective view of the joint bar; and

Figure 7 is a fragmentary view in sectional elevation generally similar to a portion of the structure shown in Figure 3 but illustrating a modified arrangement of the cross-connectors.

The illustrative table 1 comprises a series of sections, of which sections designated 2 and 3 are illustrated. The several sections are essentially duplicates of one another, and a description of the parts of one section is, therefore, equally applicable to the parts of another.

Each table section top is desirably made up of a series of longitudinal metallic channel members 4, each comprising a plane central body portion 5, downturned vertical side flanges 6, and intumed horizontal bottom flanges 7. The members 4 are connected to one another by cross-connectors 8 and 9 in the form of metallic channel members. A cross-connector 8 is provided at one end of a table section and a cross-connector 9 at the other, the two cross-connectors being of

3

complementary construction so that the cross-connector 8 of one table section may be made to cooperate with the cross-connector 9 of the next. Additional cross-connectors may be provided intermediate the ends of the table for the purpose of reinforcement, but since these additional cross-connectors form no part of the present invention they have not been illustrated.

The table legs 10 may also be in the form of metallic channel bars, each having the upper end thereof secured in one of the cross-connectors 8. The connection of the legs with the cross-connector will be referred to again in connection with a more detailed description of the cross-connectors.

A surface sheet 11 of non-metallic material, desirably of the composition known commercially as "Masonite," is adhered or otherwise suitably secured to the top plane surface of the table top formed by the body portions 5 of the channel members 4. Each sheet 11 at the end of its table section which is to be joined to another table section is formed with a shouldered recess or rabbet 12 to provide a reduced end portion 13. The end portion 13 terminates a little short of the channel bars 4 so that if the surface sheet becomes loosened from the table top the ends of the surface sheet can creep toward the end of the table section and will not cause bulging.

A joint bar 14 is interposed between the abutting ends of the table sections 2 and 3, the bar being desirably made of a tough elastic non-hygroscopic plastic material, such as ethyl cellulose. The joint bar is continuously I-shape in cross-section, comprising a head 15 which projects as side flanges at opposite sides of a body 16 and a base 17 which also projects as bottom flanges at opposite sides of the body 16. The opposite sides of the top 15 fit into the recesses or rabbets of the surface sheets 11 of the two adjacent table sections, the upper face of the top flange standing flush with both of the adjacent surface sheets. It is an important point that the sides of the top flange which overlie the reduced end portions of the surface sheets do not bear against these reduced end portions with clamping pressure but simply confine them with freedom for creeping movement.

The tops of the table sections are especially constructed to bear substantially continuously against the body 16 of the joint bar, clamping it between them, and to bear substantially continuously against the top, bottom and side faces of the bottom flange so as to secure the joint bar firmly in a prescribed position.

The end faces of each channel member 4 extend beneath the top 15 of the joint bar 14 and the reduced portion 13 of the surface sheet 11 and bear against the body 16 of the joint bar. In order to make the vertical flange 6 fit around the lower flange 17 of the joint bar 14 the flange 6 is cut away to form a notch 18, as seen in Figure 2, the formation of the notch also removing a portion of the lower flange 7 of the channel member 4.

A filler 19 is provided in the end of each channel member 4. Each illustrative filler is formed of sheet metal. Each filler 19 comprises a vertical body portion 20 which fits against the body portion 16 of the joint bar 14, a long upper flange 21 which is secured to the body portion 5 of the channel member 4 in any suitable manner as by spot-welding, a short lower flange 22 which extends parallel to the flange

4

21 and bears against the upper face of the joint bar base, and a short downturned flange 23 at the free edge of the flange 22.

At the end of the table section at which the cross-connector 8 is provided the flange 22 and the upper face of the cross-connector 8 define between them a space of fixed dimensions just large enough to receive and comfortably fit one side of the base 17 of the joint bar 14. The base of the joint bar rests upon the cross-connector 8, and this supports the head or upper flange 15 of the joint bar in the desired relation to the surface sheet 11 of the section upon which the cross-connector 8 is provided.

The cross-connector 8 comprises an upper body member 24 having downturned flanges 25 and 26. The body member 24 is disposed to extend outward beneath the joint bar and beyond the table joint. The downturned flange 26 is provided at its lower end with an intumed flange 27.

The cross-connector 9 of the abutting table section comprises a body portion 28 having downturned flanges 29 and 30. The flange 29 is adapted to extend in juxtaposed relation to the flange 26 when the fillers 19 of the table section upon which the cross-connector 9 is provided bear against the joint bar 14. The flange 29 terminates at its lower end in an out-turned horizontal flange 31 that extends beneath the flange 27 of the cross-connector 8.

In order that the joint bar may be disposed in proper relation to the surface sheet 11 of the table section which carries the illustrated cross-connector 9, set screws 32 are threaded through the flange 31 from below and are adapted to bear against the lower face of the flange 27. By advancing the set screws 32 the flanges 27 and 31 are forced apart and this serves to draw the fillers 19 of table section 3 down firmly against one side of the base 17 of the joint bar 14, and to press the base 17 down firmly against the body 24 of the cross-connector 8. This locates the top of table section 3 exactly flush with the joint bar 14 and the top of table section 2. Although the fillers of table section 3 may be urged downward with considerable force they do not exert any severe localized clamping pressure upon the base of the joint bar 14, but merely bear against it evenly to confine it in its assigned position.

Headed screws 33 are passed through bores of the flange 26 and through slots 34 of the flange 29. Nuts 35 threaded onto the screws 33 may be tightened to draw the flanges 26 and 29 toward one another. This causes the fillers of the table sections 2 and 3 to clamp the body of the joint bar firmly between them.

With the construction described the two table sections are made unitary with one another and the joint bar is secured and maintained in precisely the desired relation to the surface sheets of the two sections. This relation, as has been pointed out, leaves the sheets free to creep relative to the joint bar.

The flanges 27 and 31 are notched to receive the legs 10. The upper end of each leg 10 is bolted to the flanges 26 and 29, by means of headed bolts 230 and nuts not shown. The bolt heads space the flanges 26 and 29 a short distance from one another.

The composite table top is desirable embraced completely around its perimeter by a channel member or series of channel members 42. The surface sheets 11 are formed with marginal

5

notches 43 similar to the notches or rabbets 12, for receiving the upper flange of the channel strip 42. The arrangement is desirably such that the surface sheet can creep relative to the channel members 42. The lower flanges of the channel members 42 extend beneath the lower flanges 7 of the top channel members 4. The end margins of the cross-connectors 8 and 9 are displaced downwardly, as seen in the case of the cross-connector 8 in Figure 5, to provide space for the lower flanges of the channel members 42. The joint bar 14 is formed at its ends with notches 44 to accommodate the upper flanges of the channel members 42. Along the sides the edge embracing channel members are connected to the flanges 6 by screws 45. At the ends fillers similar to the fillers 19 are provided for the attachment of the members 42.

The side members 42 are constructed to extend across the joint between adjacent sections. When shipped the members 42 are attached by the screws 45 to the section top. Each side member 42 includes a protruding end portion through which a screw 46 is passed, the screw being threaded into a wooden block (not shown) to retain it in place. When the table sections are to be joined the wooden blocks are removed and discarded, and the screws 46 are then threaded into the flanges 6 of the adjacent table section.

In Figure 7 a construction similar to that of Figure 3 is provided, but with the cross-connectors modified in construction. Since the parts are otherwise unchanged, corresponding reference characters have been applied to corresponding parts with the subscript "a" added in each instance.

The cross-connector 8a comprises a body 24a and downturned flanges which include the flange 26a, but in this instance the bottom flange 27a instead of being turned back or inward is turned outward to extend away from the joint bar. The cross-connector 9a is of a generally similar construction to the cross-connector 9, in that it comprises a body portion 28a and downturned flanges including the flange 29a. The horizontal bottom flange 31a, instead of being outturned like the flange 31, is turned back or inward, and overlies the flange 27a.

Bolts 36 are passed downward through the flanges 31a and 27a and clamping nuts 37 are threaded on the bolts and tightened to draw flanges 27a and 31a toward one another. This has precisely the same effect of drawing the section 3 downward relative to the section 2 that was produced when the set screws 32 of Figure 3 were turned to separate the flanges 27 and 31 of that figure. When the desired adjustment has been secured by the tightening of the nuts 37 the flanges 26a and 29a are clamped immovably together. Headed screws 38 have their shanks passed through slots 39 and 40 which are formed, respectively, in the flanges 26a and 29a, and nuts 41 are tightened on the screws 38. This drawing of the flanges 26a and 29a together serves to clamp the body 16a of the joint bar 14a firmly between the fillers of the table sections 2a and 3a.

The flanges 26a and 29a are spaced from one another by the heads of leg attaching bolts 290a. The bolts are clamped to the legs and to the flange 26a by nuts 291. A downturned flange 310 is provided along the free edge of flange 31a. The flange 310 extends downward across the edge of the flange 27a in engagement with the latter.

As the nuts 41 are tightened to draw the flanges 26a and 29a toward one another the cross-con-

6

necter 9a acts as a cantilever with its flange 310 rocking upon the edge of the flange 27a as a fulcrum. As a result of this action the filler blocks of the adjoining table sections are forced positively toward one another and into clamping relation to the joint bar 14a. This is an important feature.

I have described what I believe to be the best embodiments of my invention. I do not wish, however, to be confined to the embodiments shown, but what I desire to cover by Letters Patent is set forth in the appended claims.

I claim:

1. A table section adapted to be joined end to end with a like table section, said section having a top which comprises longitudinally extending channel members arranged side by side, each including an upper or body portion, a pair of downwardly extending flanges, and a pair of lower intumed flanges, the upper faces of the body portions lying in a common plane, the lower faces of the intumed flanges lying in a common plane, and the body portions and the downwardly extending flanges terminating generally in a common end plane for engagement with the body portion of a joint bar continuously I-shaped in cross-section, the downwardly extending and intumed flanges being cut away, however, to provide a notch for fitting against a plurality of sides of a lower joint bar flange, and metallic fillers of sheet material secured in the ends of the respective channel members, each filler comprising a body portion disposed in co-planar relation with the ends of the channel member body portions, a comparatively long upper flange that bears against the lower face of the associated channel member body portion, a comparatively short lower flange parallel to the upper flange, and a downturned flange at the free edge of the lower flange, said lower and downturned flanges defining notch faces that coincide with the notch faces of the channel members.

2. A sectional table comprising, in combination, a plurality of sections and an intervening joint bar continuously I-shaped in cross-section, each section including a top composed of a series of longitudinally extending, metallic, channel members arranged side by side with their open faces downward, a non-metallic section cover substantially coterminous with said channel members and rabbeted to receive an upper flange of the joint bar at the joined end, each top fitting substantially continuously between upper and lower flanges and against the body of the joint bar, said channel members being notched to receive a lower joint bar flange, and rigid fillers secured within the respective channel members, each bearing against the joint bar body and each having recesses whose faces bear against a plurality of the faces of the associated lower joint bar flange.

3. A sectional table comprising, in combination, a plurality of sections and an intervening joint bar which is continuously I-shaped in cross-section, each section including a top that comprises a series of longitudinally extending metallic channel members, fillers within the channel members each formed to fit against the body of the joint bar and against a plurality of faces of a lower flange of the joint bar, and a non-metallic cover rabbeted to receive loosely an upper flange of the joint bar, and means clamping the opposed table sections continuously against the body of the joint bar and continuously against the respective lower flanges of the joint bar.

4. A sectional table comprising, in combination, a plurality of sections and an intervening joint bar continuously I-shaped in cross-section, each table section including a top that comprises a series of longitudinally extending metallic channel members, broad fillers within the channel members each bearing against the body of the joint bar and against a plurality of faces of a lower flange of the joint bar, a non-metallic cover rabbeted to receive loosely an upper flange of the joint bar, and metallic cross-connectors extending beneath and connected to the channel members of the respective sections, the cross-connector of one section extending beneath the joint bar in contact therewith and clamping the joint bar flanges against the fillers of both sections, and the cross-connectors of the two sections having juxtaposed vertical and horizontal flanges and adjusting means for placing and securing the sections in a desired relation to one another.

5. A sectional table as set forth in claim 4 in which the cross-connector that extends beneath the joint bar has its horizontal flange turned back to extend toward the joint bar, and in which set screws are threaded through the horizontal flange of one of the cross-connectors and bear against the horizontal flange of the other for forcibly separating said flanges.

6. A sectional table as set forth in claim 4 in which the cross-connector that extends beneath the joint bar has its longitudinal flange turned outward to extend away from the joint bar while through fasteners are passed through the juxtaposed horizontal flanges of the cross-connectors and tightened to draw the flanges toward one another.

7. In a sectional table, in combination, a pair of adjacent table sections and an interposed joint bar, the respective table sections having tops which comprise longitudinally extending channel members and fillers engageable with opposite sides of the joint bar, and cooperative cross-connectors joining the channel members of the respective sections to one another, said cross-connectors having juxtaposed vertical flanges and juxtaposed horizontal flanges, and clamping means drawing the vertical flanges together, the upper of said horizontal flanges having a downturned lip or flange engageable with the free edge of the other to define a fulcrum axis for compelling the cross-connectors to effect a pincers action relative to the joint bar as the vertical flanges are drawn toward one another.

8. A table section adapted to be joined end to end with a like table section but with a joint bar interposed which is continuously I-shaped in cross-section and of a height equal substantially to the thickness of the table section top, said table section having a top which comprises a series of longitudinally extending metallic channel members arranged side by side with their body portions in co-planar relation and with their open faces down, the lower boundaries of said channel members being also disposed in co-planar relation, a non-metallic section cover

supported on the body portions of the channel members and substantially co-terminous with said channel members and rabbeted at an end to be joined, the channel members having aligned notches formed in their lower extremities at the section end to be joined, and rigid fillers secured within the respective channel member against the body portions thereof, said fillers extending substantially the full height and width of the channel members and having vertical faces which coincide with the end extremities of the channel members at the end to be joined, and further faces which coincide with the notch faces of the channel members at the end to be joined, the channel members and the fillers forming a substantially continuous lower rabbet of uniform cross-section for fitting a lower flange of a joint bar of the kind referred to.

9. A table section adapted to be joined end to end with a like table section but with a joint bar interposed which is continuously I-shaped in cross-section and of a height equal substantially to the thickness of the table section top, said table section having a top which comprises a series of longitudinally extending metallic channel members arranged side by side with their body portions in co-planar relation and with their open faces down, the lower boundaries of said channel members being also disposed in co-planar relation, a non-metallic section cover supported on the body portions of the channel members and substantially co-terminous with said channel members and rabbeted at an end to be joined, the channel members having aligned notches formed in their lower extremities at the section end to be joined, rigid fillers secured within the respective channel members against the body portions thereof, said fillers having vertical faces which coincide with the end extremities of the channel members at the end to be joined, and further faces which coincide with the notch faces of the channel members at the end to be joined, and a cross-connector uniting the several channel members, said cross-connector having an upper horizontal face flush with the lower boundary plane of the channel members, the channel members and the fillers together with the cross-connector jointly defining a lower substantially continuous channel of uniform cross-section for fitting a lower flange of a joint bar of the kind referred to.

PHILIP ROSENBERG.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,166,195	Rosenberg	July 18, 1939
2,166,196	Rosenberg	July 18, 1939
2,253,772	Edgren	Aug. 26, 1941
2,327,743	Rosenberg	Aug. 24, 1943
2,481,350	Rosenberg	Sept. 6, 1949
2,484,283	Gilbert et al.	Oct. 11, 1949