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W. E. GOTTSCHALK ET AL

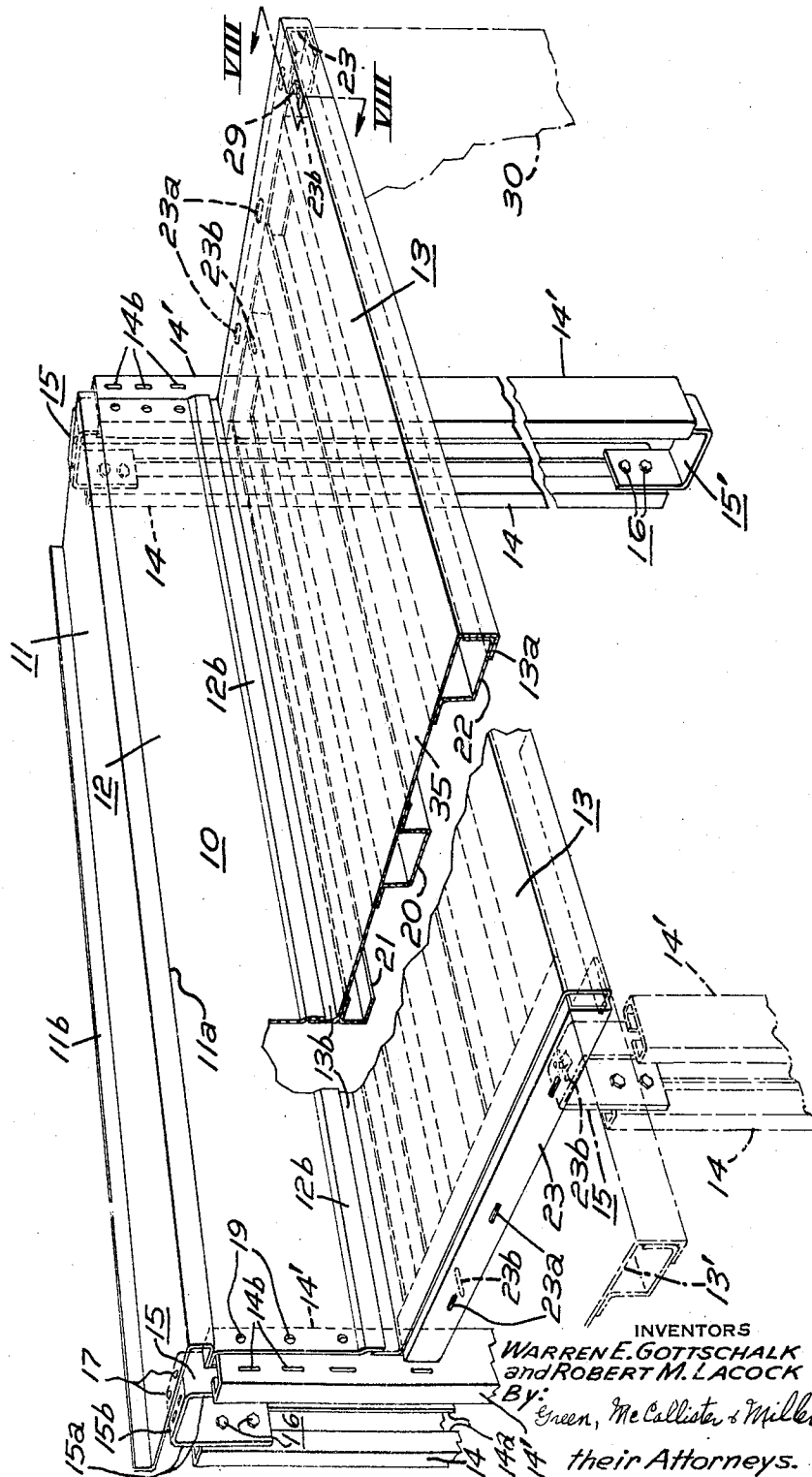
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TABLE CONSTRUCTION

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3 Sheets-Sheet 1

Fig. 1



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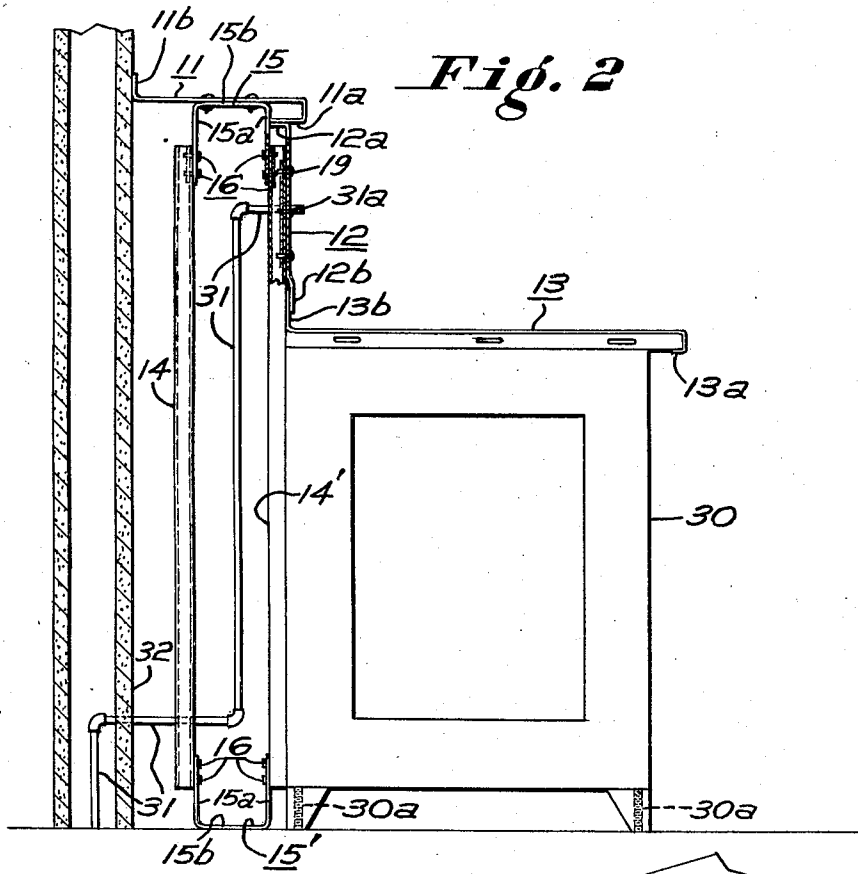
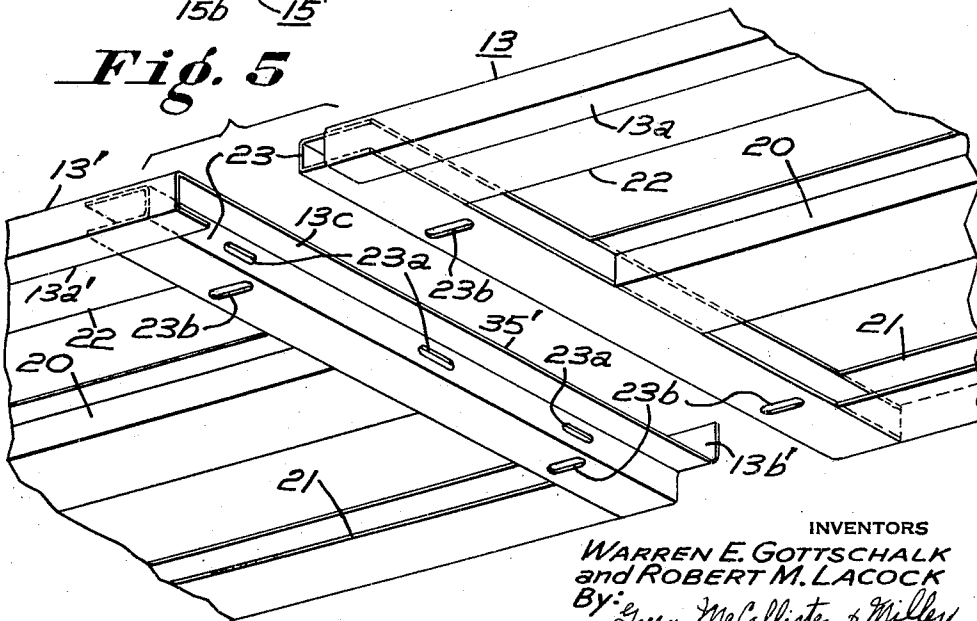
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3 Sheets-Sheet 2



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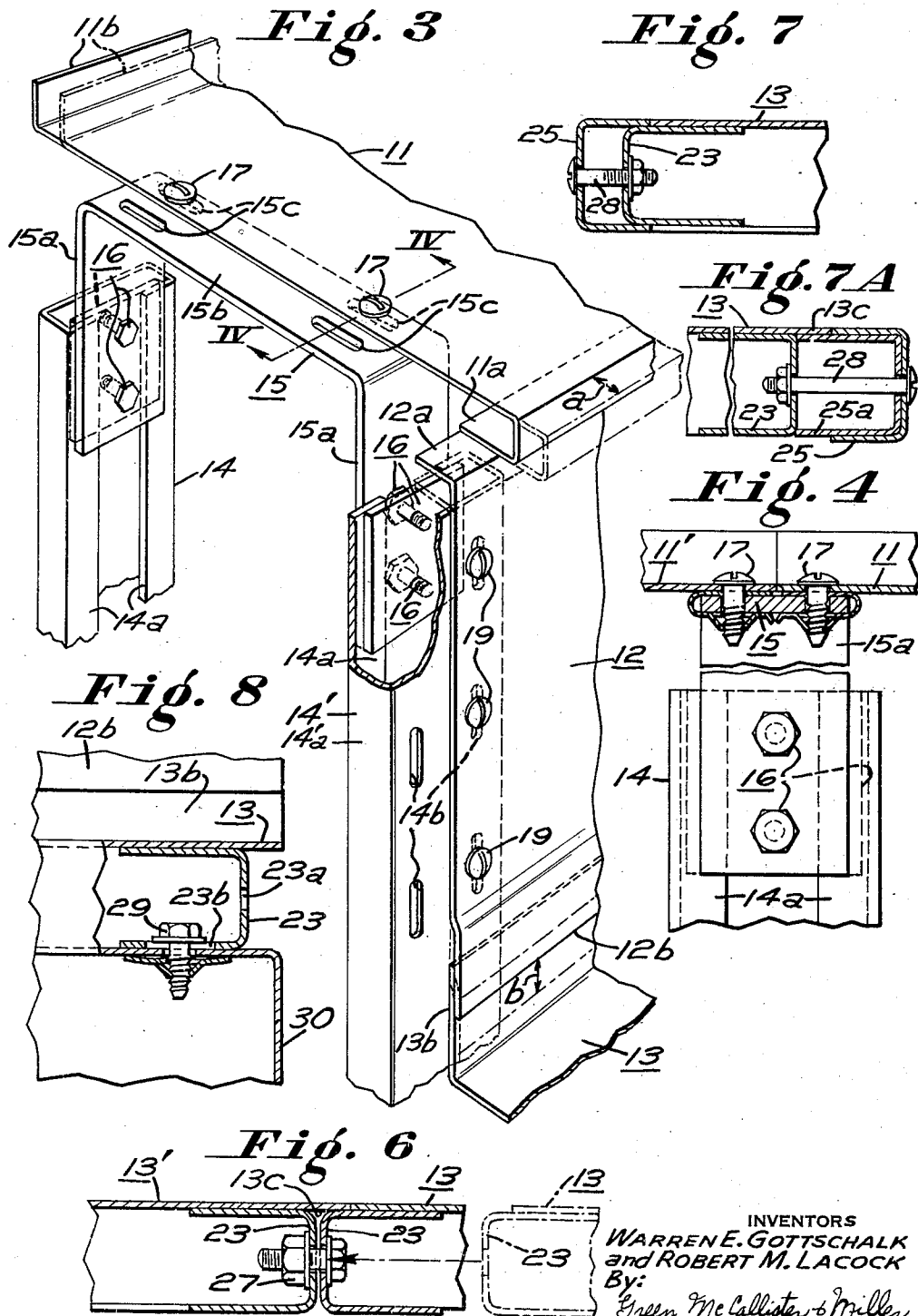
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TABLE CONSTRUCTION

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3 Sheets-Sheet 3



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TABLE CONSTRUCTION

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The present invention relates to an improved table construction and more particularly, to a laboratory table unit having compact and closely fitting parts which may be adjusted with respect to each other and readily used in an interfitting relationship with other similar units in order to meet various or changing needs.

In a table and particularly in a work table, it is desirable to have a simple construction that involves relatively few parts and yet is practical, sturdy, and pleasing in appearance. In a work table, such as a chemistry laboratory table, it is desirable to avoid above-table surface obstructions and to minimize joints or gaps between the parts in which dirt, reagents, etc., may collect or through which they may leak. The last desideratum is especially difficult to achieve in a work table having adjustable and interchangeable parts, since these features ordinarily entail obstructions, additional seams, gaps, and the like.

Our table satisfies the foregoing desiderata by providing a unit or apparatus of simple and rugged construction in which surface gaps, and the like are substantially eliminated and seams are minimized, made leak-proof and tight, although the unit is adjustable as to height and positioning of its parts and may be readily interfitted with other units to form a longer or extended construction.

In the drawings, Figure 1 is a front perspective view of a table unit of our invention;

Figure 2 is a side elevation in partial section and on the scale of Figure 1, illustrating how plumbing may be built into the structure and also illustrating how an auxiliary under-table cabinet base or unit of conventional construction may be employed;

Figure 3 is an enlarged fragmental perspective view in elevation of the mounting of primary, secondary and apron panel members of Figure 1;

Figure 4 is a further enlarged fragmental section taken in the direction of the line IV—IV of Figure 3 and showing an end-to-end mounting of a secondary panel of a unit of our invention with the secondary panel of a side-by-side positioned similar structure of an adjacent side unit;

Figure 5 is an under-side perspective view illustrating interfitting end structures of two adjacent side-by-side positioned, primary panel or table top members of our construction;

Figure 6 is an enlarged front end longitudinal section illustrating how a pair of adjacent structures of Figure 5 may be assembled and secured together;

Figure 7 is a front end longitudinal fragmental section similar to Figure 6 showing how side edge trim or cap member means may be assembled and secured to a primary panel having an outwardly-projecting end connector and in place of an adjacent structure such as shown in Figure 6;

Figure 7A is a view similar to Figure 7, but showing how cap member means may be assembled and secured

to a primary panel having an inset or inwardly-projecting end connector; and

Figure 8 is an enlarged section taken in the direction of line VIII—VIII of Figure 1 and illustrating how a primary panel may be secured to a cabinet unit or base such as shown in Figure 2.

A table unit 10 of our invention employs a main or primary table top surface member or panel 13, a back or apron surface member or panel 12, and a smaller service table top or secondary surface member or panel 11 above and surmounting the apron panel 12; these panels may be of a suitable corrosion-resistant material such as stainless steel.

We position support structure for the table 10 behind the apron surface 12, where it may be secured to support all three surfaces in an assembled relationship. We avoid dirt, liquid, and chemical collecting seams, etc., by providing the secondary panel 11 with an upwardly projecting back flange 11b, by having the secondary surface 11 overhang the apron surface panel 12, by having the apron panel 12 overlap or overhang the primary panel 13, by providing an improved side end or edgewise interfitting relationship between adjacent table units, by providing an improved side edging, trim or cap construction for the primary member 13, and by providing the primary panel 13 with an underturned front edge or drip flange portion 13a.

The table unit 10 of our construction is flexible, in that its parts are adjustably and interchangeably positioned to meet diverse requirements. Table leg, stanchion or support member assemblies provide a support structure that may be varied as to its length or vertical extent. The secondary panel 11 may be varied as to its horizontal positioning on the support structure (see arrow *a* of Figure 3) and the apron panel 12 may be varied as to its vertical positioning, see arrow *b* of the same figure. It will be noted that the apron panel 12 may be vertically adjusted with respect to the primary panel 13 without spoiling the lap-seal therebetween. The secondary panel 11 may also be positioned forwardly and backwardly with respect to the panel 13 without breaking its seating engagement with the apron panel 12. The side edges or ends of the main table surface or primary panel 13 of the unit are designed to interchangeably interfit end-to-end with table surface panels 13' of other similar adjacent units (see Figures 5 and 6) or with trim or cap members 25 (see Figure 7).

In the form shown, our table 10 makes use of end support assemblies of loop shape, each of which has a pair of spaced-apart vertical front and back legs, posts or stanchions 14 and 14'. U-shaped connectors 15 and 15' join the upper and lower ends of the stanchions. Each connector 15 or 15' is adjustably mounted along its side portions to extend its transverse bight portion a variable distance beyond the ends of the stanchions and thereby alter their effective lengths.

The secondary or service panel 11 extends between the bight portions of at least a pair of the connectors 15 at upper ends of the stanchions 14 and 14' and is adjustably fixed to such portions for movement in the direction of its width, see Figure 3. The apron surface panel 12 has a backwardly projecting top flange portion 12a that seats or abuts against the flange of an underlying front or forward portion 11a of the service panel 11 to lie substantially flush therewith. The apron surface panel 12 is adjustably fixed to front or inner supporting stanchions 14', in order to be moved in a vertical direction to compensate for adjustments in the U-shaped connectors 15 that join the upper ends of the stanchions 14 and 14'.

The primary or main table surface panel 13 is shown in vertically-adjustable abutment with the front stanchions 14' that carry the apron surface panel 12 to project out-

wardly therefrom. To avoid a back-splash seam or gap and to permit adjusting the apron surface panel 12 with respect to the primary panel 13 and vice versa, we provide a ship-lap type of sliding fit between an upwardly-projecting back flange 13b and a downwardly-projecting forwardly-offset front flange 12b.

The main table surface panel 13 of each unit 10 has channel-shaped connectors 23 at each side edge or end to mate with similar connectors of a companion panel 13' of an adjacent unit. The connectors 23 extend transversely along the ends of the main table surface panel 13 or 13', see Figure 5. One connector 23 (of an adjacent pair) is spaced inwardly from the end of its panel, see panel 13' and extension portion 13c of Figures 3 and 5 and panel 13 and extension portion 13c of Figure 7A, and the other connector 23, see panel 13 of Figures 5, 6 and 7, projects outwardly from an adjacent or opposed end of its panel.

Each back end support assembly for the unit 10 (two are shown in Figure 1) comprises a pair of opposed stanchions or legs 14 and 14', the open or slotted sides of whose channel shapes face each other. Inturned flange feet 14a of each stanchion define a longitudinal or vertical slot along which the connector brackets 15 are adjustably clamped by bolt and plate assemblies 16. Each U-shaped connector bracket 15 has a pair of spaced-apart leg portions 15a and a connecting bight portion 15b to join upper ends of the stanchions. As shown in Figure 3, the plate of each assembly 16 is placed within the hollow portion of stanchions 14 or 14' and the bolts of the same assembly pass between the slots of the flanges 14a to draw the leg portion 15b into tight frictional engagement upon the flanges.

As shown in Figures 1 and 2, similar connector brackets 15' connect lower ends of the inner and outer stanchions 14 and 14'. The bight portions 15b of the lower connector brackets 15' may rest upon a support floor, while the bight portions of the upper connectors 15 carry the service panel 11 therebetween.

The service panel 11 has a forward portion 11a folded down and back towards itself to form a rearwardly-directed flange. At each end, the service panel 11 may be adjustably fixed to one half of the projecting bight portions 15b by speed nut assemblies 17 which project through elongated adjustment slots 15c in such portions to cooperate with single or double plate washers (see Figures 4 and 8), so that the service panel 11 may be adjusted transversely in a substantially horizontal plane. If the panel 11 is an end panel, it may be secured through an outer set of slots 15c; if it is to be used with the panel of an adjacent unit or with a trim member, it may be secured (as shown in Figure 3) to an inner set of slots 15c.

The apron surface panel 12 extends downwardly from the service panel 11 and is shown adjustably fixed to the front stanchions 14' by speed nut assemblies 19 (similar to 17) and a common vertical washer strip (not shown) that cooperates with vertically-elongated slots 14b in the stanchions 14'. The assemblies 19 are thus adjustable in a vertical direction. Like the panel 11, the panel 12 may be secured through the first or second group of aligned slots (14b), depending on whether or not an apron panel of an adjacent unit is to be used. As shown in Figure 3, the apron panel 12 has an effective edge sealing-off relationship with the panels 11 and 13 by reason of its top, backwardly-projecting flange 12a and its lower, offset lap-slide flange 12b.

The primary or main table surface panel 13 comprises a continuous sheet member which extends forwardly from the front stanchions 14' and from the apron panel 12 to terminate in the downwardly and inwardly-turned drip flange or front edge portion 13a, see Figure 1. A centrally-disposed and upwardly-open channel 20, a backwardly-disposed and forwardly-open channel 21, and a forwardly-disposed and upwardly-open channel 22 extend

longitudinally in a transversely spaced-apart relationship with each other to support and reinforce the underside of the panel 13. As shown in Figures 1 and 5, end or connector channels 23 are mounted within the back side channel 21 to abut end portions of central or mid-channel 20 and front side channel 22. The end channels 23 serve as connectors and at their inner ends abut stanchions 14'.

Although bolt and nut assemblies (corresponding to the assembly 29 of Figure 8) may be employed to secure back channels 21 to the stanchions 14' through vertically-elongated slots in the latter, I have shown the main panel 13 and its support members as a separate unit from the back structure and as having a vertically-adjustable interfitting relation with the back structure. Thus, as shown in Figure 2, leveling screws 30a of such an understand or cabinet as 30 of this figure may be adjusted by a screw driver from within the stand or cabinet to raise or lower each corner of the table panel 13 until it is fully level. Also, the panel 13 and its support members 20, 21 and 22 may be tilted upwardly from the front to lift the assembly away from the back structure, including panels 11 and 12.

As shown in Figures 1, 5, 6, 7 and 7A, one end connector 23 of one panel 13 is secured forwardly of its end or side edge portion to either receive a projecting edge 13c of an adjacent panel 13' or to receive top and bottom edges of a trim or cap member 25 (see Figure 7). The other end connector 23 of the same panel 13 (see Figure 7A) is secured behind the panel edge to receive a modified trim or cap assembly, comprising filler channel piece or member 25a and cap member 25. Each connector channel 23 (see Figure 5) has a series of elongated slots 23a along its side web or bight and a series of elongated slots 23b across its bottom or under flange. The former serve for mounting adjacent connectors 23 (see Figure 6) or a trim or cap member 25, see bolt, washer and nut assemblies 27 and 28, respectively.

As illustrated in Figure 8, bolt and nut assemblies 29 (speed type shown) may cooperate with slots 23b to secure the members 23 to a stand or cabinet 30 or as indicated by the dot and dash lines of Figure 1, to the bight portion 15b of a front support leg or stanchion assembly that corresponds in construction to the back assemblies shown, but is of shorter length.

Whether a trim member 25 or an adjacent table top panel 13' is assembled with ends of the panel 13, a construction is assured in which flush and edge-to-edge coplanar mounting is employed.

Referring particularly to Figure 2 of the drawings, we have illustrated an arrangement for bringing in plumbing, such as adjacent cold and hot water piping 31, to the apron panel 12. As shown, the piping 31 may extend out of the building wall 32, between stanchion or leg assemblies, upwardly along the thickness or depth spacing defined between the fore and rear stanchions 14' and 14, and then transversely out through a slot or hole in the panel 12, so that suitable fixtures may be mounted on threaded end portions 31a. Although the depth spacing between the wall 32 and the rear stanchions 14 may vary from nothing (close abutment caused by shortening the width of the back portion of panel 11) to a spaced relationship, such as shown in Figure 2, the spacing between the stanchions 14 and 14' is always available and sufficient to provide service spacing for plumbing, electric wiring and other utility connections. Thus, the back member 12 may serve as an outlet panel for water, gas, electricity, etc.

The service or secondary panel 11 is ordinarily used for storing bottles of liquid reagents and the like. It is emphasized that throughout all adjustments of the panel 11, the flange 11a seats against the flange 12a and, as shown in Figure 1, provides a drip edge that may be readily washed or wiped off. When there is spillage of liquid reagents on the service panel, the liquid (for ex-

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ample, an acid) will run or drip off the panel 11 upon the panels 12 and 13, thus protecting the joint between the portions 11a and 12a.

When it is desired to lengthen the table or unit 10, another similar table unit may be readily interfitted with the first, as illustrated. It will be noted that the stanchions 14 and 14' and connectors 15 of one so-called service or support island may also serve for mounting adjacent panels such as 11, 12 and 13 of the added unit in a flush, edge-to-edge and substantially coplanar relationship with corresponding panels of the other adjacent unit. Ordinary bolts and nuts, self-tapping screws or bolts, or "speed" nuts, all of which are known in the art, may be used. Any seams between adjacent units may be filled with solder or a water-tight inorganic cement to provide fully continuous surfaces.

If it is contemplated that only a single section or table surface unit 10 is needed, then the end connectors 23 for the unit may be mounted to project outwardly (as shown to the left of Figure 1) from opposite ends of the main or lower surface panel 13. However, we prefer to have one end connector 23 mounted to project outwardly (see Figure 7) and the opposite end connector 23' mounted in a depressed or inwardly offset or spaced relation (see figure 7A) to make the unit of panel 13 more readily adaptable for combining with additional units. It is apparent that the cap members 25 may be used to enclose both ends of each unit, but that one or both of the cap members may be removed if it later appears advisable to add one or more adjacent units to one or both ends of the existing unit. A companion unit of similar construction may thus be mounted in position in such a manner that the projecting connector of one unit cooperates with the inwardly spaced or offset connector of another unit to provide a flush, hair-line seam between end-to-end positioned main surface panels 13 and 13' of the units.

It is thus apparent that table units 10 of our construction are highly adaptable to meet requirements as they may arise. The connectors 23 and the other channel or support members 20, 21 and 22 may be soldered or spot-brazed in position on the underside of the panels 13 or 13' to provide a unitary main panel or table top construction. The desideratum is to provide transversely-extending connectors 23 for the panels 13 and 13' of adjacent units 10 which may be secured together by bolt means 27 of Figure 6 and which will provide single-surface-plane, edge-to-edge, and effective sealing seams between the edges of adjacent panels 13 and 13', as well as a support for the projecting portion 13c of the one panel 13' on the upper flanges of both of a pair of adjacent or abutting connectors 23.

What we claim is:

1. An assembly of flush-mounted table units to provide a continuous table surface, which comprises, a pair of longitudinal surface plate members having adjacent end portions positioned with their transverse ends in an edge-abutting relationship with each other to define a joint therebetween, a pair of channel-shaped end support connectors for said plate members, said connectors being positioned in an opposed relationship transversely across said adjacent end portions with their web portions in a back-to-back relationship to define a joint therebetween, said connectors having flanges projecting away from the joint defined between their web portions and such joint being longitudinally offset with respect to the joint defined by the transverse ends of said plate members, one of said connectors being secured by its upper flange transversely across the under-side of one of said plate members in a backwardly spaced relation with respect to the transverse end of said one plate member, the other connector being secured by its upper flange transversely across the under-side of the other plate member with said flange in a longitudinally-outwardly projecting rela-

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tionship with respect to the transverse end of said other plate member and along the underside of said first plate member with its web portion in the back-to-back relationship with the web portion of said one connector, and means cooperating with said connectors to secure their web portions in their defined back-to-back relationship.

2. An assembly as defined in claim 1 wherein, said plate members have longitudinally-extending flanges at their adjacent ends within which said connectors are received, and said other connector projects outwardly and is positioned between the under-side of said one plate member and the inner side of the flange of said one plate member.

3. In a table construction, spaced-apart support means, each of said means having a pair of spaced-apart vertically-disposed members and connector means between said pair of opposed members, each of said connector means having a portion extending beyond upper ends of said pair of members; an upper table surface member extending between and connected to the extending portion of said connector means, an apron surface member seating against said table surface member and extending downwardly along and connected to a forward member of each pair of said opposed members, a main table surface member seating against said apron surface member and said forward members to project forwardly therefrom; said main surface member having a back upwardly-projecting flange, and said apron surface member having a lower edge flange overlapping said upwardly-projecting flange and seating thereover.

4. In a table construction, spaced-apart support means, each of said means having a pair of spaced-apart vertically disposed members and connectors between said pair of opposed members, each of said connectors having a portion extending beyond upper ends of said pair of members; an upper table surface member extending between and connected to the extending portions of said connectors, an apron surface member seating against said table surface member and extending downwardly along and connected to a forward member of each said pair of opposed members, a main table surface member seating against said apron surface member and said forward members to project forwardly therefrom, said upper table and apron surface members having abutting flanges and the flange of said upper table surface member overlying the flange of said apron surface member, means adjustably mounting said upper table surface member on said connectors, and means adjustably mounting said apron surface member on the forward members of said pairs of vertically disposed members, so that the abutting flanges of said upper and apron surface members may be positioned in a sealed relation with respect to each other.

5. An improved table construction comprising, at least a pair of longitudinally spaced-apart support assemblies, each of said support assemblies having a pair of transversely spaced-apart vertical leg members, a pair of U-shaped connectors, said connectors having vertical leg portions adjustably secured on and projecting above the pair of leg members of each of said pair of assemblies and having a transverse bight portion above said pair of leg members connecting said leg portions together, a longitudinal table surface member secured at its end portions on the bight portions of said pair of assemblies, a longitudinally-extending apron member adjustably secured on a front leg member of each of said pair of assemblies and having a top flange portion in slidable abutment with said table surface member, at least a pair of transversely-extending support members secured at their inner ends upon the front leg members of said pair of assemblies in a longitudinally spaced-apart relationship with each other, a second longitudinal table surface member secured upon said pair of transverse members, and said second table surface member having an

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upwardly-projecting back flange therealong, and said apron member having an outwardly-offset bottom flange therealong in slidable overlapping abutment with the back flange of said second table surface member.

6. An improved table construction comprising, at least a pair of spaced-apart support members, each of said support members having a pair of vertically-projecting channel-shaped stanchions in an opposed relationship with respect to each other, and at least one connector member adjustably securing end portions of said pair of stanchions in the defined relationship with respect to each other, said connector member having a bight portion extending thereabove, an upper surface member, an apron surface member, and a main and lower surface member, said surface members being securely mounted on said support members and having overlapping fluid-sealing-off portions with respect to each other, said upper surface member being secured on the bight portions of said connectors, said apron member being secured to the web of a front stanchion of each pair and projecting vertically therealong and said main surface member projecting forwardly from a lower portion of said apron member and being secured to the same front stanchion of each pair as said apron member.

7. A table construction as defined in claim 6 wherein, a reinforcing channel member extends longitudinally along and is secured to an underside of a forward side of said main surface member, and said main surface member has an overlapping flange extending integrally-

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downwardly therefrom and upon said reinforcing member to define a drip edge.

8. A table construction as defined in claim 6 wherein transverse end connectors are secured to the underside of opposite end portions of said main surface member to cooperate with similar end connectors of a main surface member of an adjacent similar table construction and align said main surface member in an edge-to-edge relationship with a similar main surface member of the adjacent construction.

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