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JOINT FOR CONNECTING SINK TOPS

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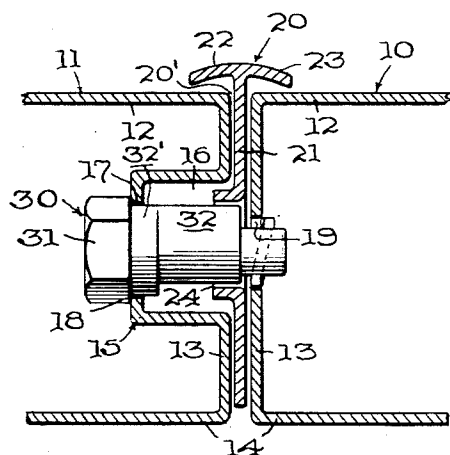


FIG. 1.

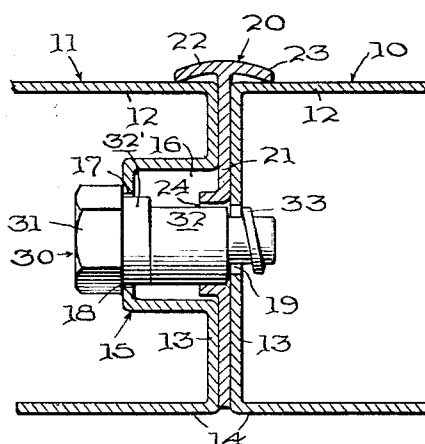


FIG. 2.

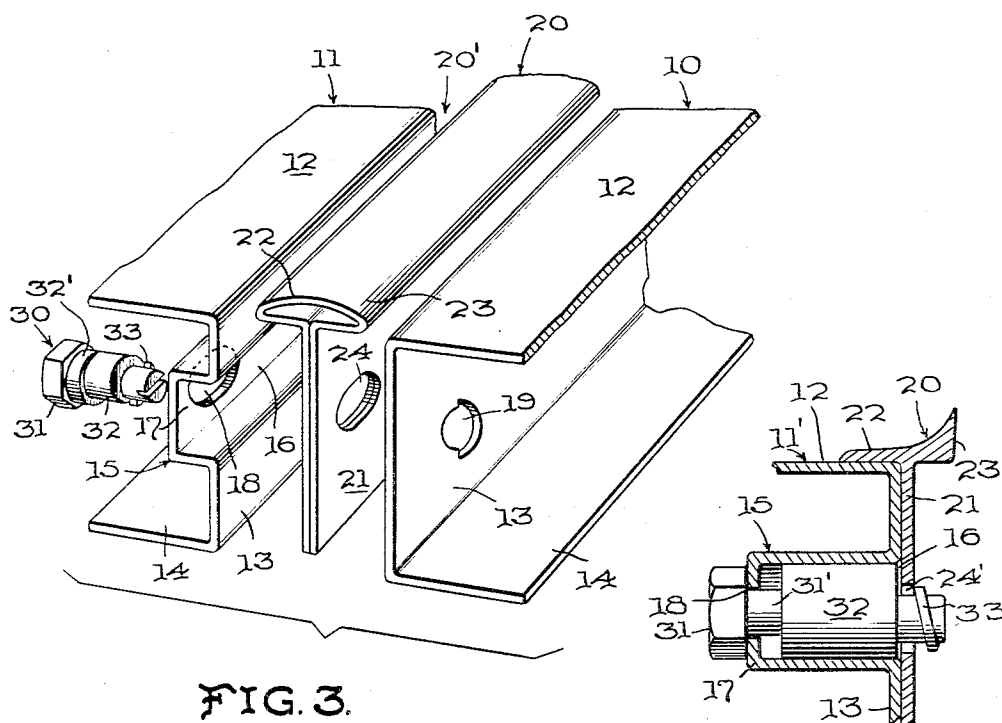


FIG. 3.

FIG. 4.

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JOINT FOR CONNECTING SINK TOPS

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10 Claims. (Cl. 311-4)

This invention relates to joint arrangements. More particularly, it is concerned with providing a novel arrangement for tightly fastening together two adjacent sink top sections or the like together with novel means for accomplishing the same.

In the past, considerable difficulty has been experienced in obtaining a tight joint between the top surfaces of adjacent sink sections. As a result, food particles and other debris frequently collect within the recesses or openings which exist between the adjacent sink sections, and it is extremely difficult to dislodge the same except with a special tool. Consequently, it is very difficult to maintain a truly clean and sanitary sink surface under such conditions.

Various means have been proposed and used for securing the top surfaces of adjacent sink sections together. However, these have not always proven satisfactory either because they involved complicated fittings which in turn required special tools or skill for properly emplacing the same, or they only held the sections tightly together for a short period of time with the result that the sections would eventually pull away from one another and leave an opening for food particles and other matter to collect within the opening or recess formed between the sections.

Accordingly, it is an object of this invention to provide novel means for joining together the top surfaces of adjacent sink sections and the like.

It is a further object of this invention to provide a novel joint arrangement between the top surfaces of adjacent sink sections and the like which is efficient and simple in construction, and one which permits the sink sections to be permanently and tightly drawn together so that no exposed opening is left therebetween.

It is a further object of this invention to provide a novel arrangement for joining the top surfaces of adjacent sink sections and the like together wherein the various members can be drawn tightly together without the use of complicated tools or accessories.

It is a further object of this invention to provide a novel arrangement for drawing one or more sink sections tightly about a molding strip.

It is another object of this invention to provide a novel pin member for drawing one or more sink sections tightly about a molding strip.

These and other objects are accomplished by providing a novel joint construction, whereby adjacent sink members and the like are drawn tightly together, wherein each of the sink sections is provided with a top surface portion and a wall element projecting downwardly therefrom.

Where two sink sections are used, each of the wall elements thereon is provided with at least one opening. A T-shaped molding strip is also used and this T-shaped molding strip is provided with an apertured stem and oppositely disposed wing members projecting from one extremity of the stem. This T-shaped strip is located between the sink sections with the stem of the strip being positioned directly between the downturned wall elements of the sink sections. A pin member is also employed. This pin member is provided with an eccentric portion for advantageously engaging the stem of the T-shaped molding strip and a threaded portion for engaging the wall element of a sink section when the apertures in the stem of the strip and the downturned wall elements are aligned and the pin member is inserted within the apertures. When the pin is rotated within the apertures,

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the downturned wall elements in the sink sections will be drawn tightly together about the stem of the T-shaped molding strip at substantially the same time that the wing members of the T-shaped molding strip are also drawn tightly against the top surface portions of the sink sections.

In this way, it is possible to obtain an efficient and simple joint arrangement between two adjacent sink sections and one which provides assurance that the members will remain tightly together permanently and will not pull away from one another under constant usage.

Other objects and advantages of the instant invention will become more readily apparent from a review of the following detailed description when taken in conjunction with the appended drawings, wherein:

Figure 1 is a sectional view of a joint between two adjacent sink sections showing the novel means for drawing the sections together with the position of the various elements making up the joint just prior to the time they are drawn tightly about one another being shown;

Figure 2 is a cross-sectional view of the completed joint formed by the elements shown in Figure 1 after they have been drawn tightly together;

Figure 3 is a fragmentary and exploded perspective view of the various elements making up the joint arrangement of Figures 1 and 2; and

Figure 4 is a sectional view of a modified type of joint arrangement over that of Figure 1 which can be formed while using the novel pin member of the instant invention.

With further reference to the drawings and particularly Figures 1 and 2, it will be noted that the novel joint arrangement of the instant invention can be used effectively for drawing together other items besides sink sections, such as metal cabinets and other products when made of metal, porcelain, enamel, plastics, woods, etc. In the preferred embodiment of the invention it is contemplated that it will be used for drawing adjacent sink sections together. Accordingly, the following discussion will be directed along these lines.

Each of the two adjacent sink sections 10 and 11 which are to be drawn together includes a top surface portion 12. Projecting downwardly from this top surface portion 12 is a wall element 13. In some instances, depending upon the particular configuration or profile of the sink section or member to be joined, wall element 13 may also be provided with a flange member 14 which extends in parallel spaced relationship with the top surface portion 12 of each sink section or member.

The wall element of one of the sink top sections may be advantageously provided with an embossment or struck-out portion 15. This embossment in turn provides a channel-shaped recess 16 which may be elongated and extend the full width or length of the wall element 13. Alternatively, the wall element 13 may be provided with a plurality of spaced embossments.

The web portion 17 of the embossment 15 is provided with one or more horizontally aligned apertures 18.

The opposing downturned wall element 13 of the other sink section 10 is provided with one or more suitable apertures 19, portions of which are of greater radius than the other portions thereof.

A T-shaped molding strip 20 is then inserted in the opening or recess 20' between the adjacent sink sections 10 and 11 in such a way that the stem 21 of the strip is located directly between and in parallel relationship with the downturned wall elements 13 on the adjacent sink sections. By this arrangement, the wings 22 and 23 of the molding strip located at one extremity of the stem 21 will be located on either side of the opening 20' so that each one of them can be said to overlap the top surface portion 12 of a sink section. The stem 21 of the T is also provided with one or more apertures 24.

After the various apertures in the stem 21 and in the downturned wall elements 13 have been aligned, it is then possible to place a pin member 30 within these apertures. This pin member 30 is provided with a hexagonal head portion 31, an intermediate eccentric portion 32, and a threaded portion 33 at the opposite end thereof. Threaded portion 33 may be in the form of an acme half thread. As indicated in Figures 1-3, pin member 30

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may also be provided, if desired, with a second eccentric portion 32', the function of which will be described later.

When this pin member 30 is inserted in the aligned apertures 18 and 19 of the wall elements 13 and aperture 24 in the stem 21 of the T-shaped molding strip 20, the head portion 31 of the pin member will engage the embossed portion 15 on the wall element 13 of sink section 11 while the eccentric portion 32 of the pin member 30 will engage the stem of the molding strip 20. The threaded portion 33 in turn is adapted to be inserted within and through the opening 19 in the downturned wall element 13 of the other sink top section, opening 19 having a suitable configuration so that the threaded portion 33 of pin 30 may pass therethrough.

It will thus be seen that as the pin member 30 is rotated while in this position, the eccentric portion 32 will contact the stem of the T-shaped molding strip and force the stem of the molding strip further down into the opening between the two sink sections at substantially the same time that the two sink sections are drawn together tightly against the stem of the T-shaped molding strip as a result of the compressive action of the threaded portion 33 of the pin member 30 on the wall element 13 of one sink section and the similar action of the head portion 31 on the wall element 13 of the other sink section. As a result, a tight and efficient joint will be obtained between the two sink sections 10 and 11 as the stem of the T-shaped molding strip is forced downwardly in the opening 20' between the two sections and the wings 22 and 23 of the molding strip 20 are brought into bearing contact against the top surface portions 12 of the sink sections. When pin member 36 is provided with a second eccentric portion 32' as indicated in Figures 1-3 in lieu of a shank portion 31' as indicated in Figure 4, the actions of both eccentric portions 32 and 32' will be complementary to one another since they are disposed on opposite sides of the pin 30. Eccentric portion 32 will engage the molding strip 20 and eccentric portion 32' will engage one of the sink sections.

The T-shaped molding strip 20 may be formed in any suitable manner. It can be in the form of an extrusion, or it can be roll formed. It can also be made out of any suitable type of material besides metal. In addition, it is also to be understood that the same type of joint arrangement can be used not only for joining together sink sections, but also metal cabinets and other members where it is desirable to obtain a tight efficient joint therebetween. Accordingly, the term "sink member" or "section" as used in the claims is to be construed as being generic to metal cabinets, etc.

It is also within the contemplation of this invention that more than one pin member 30 may be employed for drawing together adjacent sink sections. In this case, a plurality of spaced slots or openings 18 would then be provided within suitable embossed portions 15 in the wall element 13 of one of the sink sections, and a plurality of spaced openings 19 would then be provided in the downturned wall element 13 of the adjacent sink section. A plurality of spaced openings 24 would likewise be provided in the stem 21 of the T-shaped molding strip 20.

It is also to be understood that the openings 18 in the embossment 15 of one of the sink sections be of a suitable configuration so that the eccentric portions 32 and 32' can be easily slipped therethrough.

In addition, it is also within the contemplation of this invention that the pin member 31 may be used as a compressive tool for drawing the sink sections together and for holding them about the molding strip long enough for the several members to be tightly welded or riveted together after which the pin member 30 can then be removed. In this case then, the pin member 30 would not necessarily be a fixed component of the joint, but could be construed as a jig which can be later removed after the members are securely joined together.

As indicated in Figure 4, the novel pin member 30 may also be advantageously employed for drawing a single sink section 11' about a molding strip, similar to the T-shaped molding strip 20 except that the wing member 23 thereof projects upwardly as well as outwardly. The molding strip may be of the type such as are found at the juncture of a sink section and the wall of a kitchen. In this event, the eccentric portion 32 would engage the embossment 15 on the sink section 11 and the threaded portion 33 would slip through an opening 24' in the stem of the molding strip, which opening would have a con-

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figuration similar to aperture 19 in the sink section 10 shown in Figures 1-3. Upon rotation of the pin member 30 by a suitable tool, the molding strip and section 11' will thus be brought together.

An advantageous embodiment of the invention has been hereindisclosed and described. It is obvious that various changes may be made therein without departing from the spirit and scope thereof as defined by the appended claims, wherein what is claimed is:

1. Means for tightly drawing together adjacent sink sections and the like comprising the combination of a molding strip provided with a stem, said stem being provided with an aperture, and a wing element located at one extremity of the said stem and projecting from said stem at a transverse angle thereto, separate sink sections located on either side of the stem of the molding strip, each of said sections having a top surface portion and a wall element projecting downwardly from said top surface portion and located closely adjacent the stem of the molding strip, and each of said downturned wall elements being provided with an aperture, a pin member provided with an eccentric portion and a threaded portion whereby when this pin member is inserted in the apertures in the said downturned wall elements and the stem of the molding strip upon the alignment of the said apertures and said pin is rotated therein, said eccentric portion will engage the stem of the molding strip and said threaded portion will engage the wall element on one of the said sink sections so that the sink sections will be drawn tightly about the stem of the molding strip while the wing element of the molding strip will be drawn tightly against the top surface of a sink section.

2. Means for tightly drawing together adjacent sink sections and the like comprising the combination of a molding strip provided with an apertured stem and oppositely projecting wing elements located at one extremity thereof, a separate sink section located on each side of the stem of the molding strip, each of said sections having a top surface portion and a wall portion projecting downwardly from the top surface portion and located closely adjacent the stem of the molding strip and each of said downturned wall portions being provided with an aperture, and a pin provided with an eccentric portion for engaging the stem of the molding strip and a threaded portion for engaging the downturned wall portion of a sink section when the apertures in the said stem and downturned wall portions are aligned and the pin is inserted therein, whereby when said pin is rotated in said apertures, the downwardly turned wall portions of the sink sections will be drawn tightly together about the stem of the molding strip as the wing elements of the molding strip are drawn tightly against the top surfaces of the sink sections.

3. Means for tightly drawing together adjacent sink sections and the like comprising the combination of a molding strip provided with an apertured stem and a wing element located at one extremity of the stem and projecting at a transverse angle away from the said stem, a separate sink section located on each side of the stem, each of the said sections having a top surface portion and a wall portion projecting downwardly from the top surface portion and located closely adjacent the stem of the molding strip, the downturned wall portions on one of the sink sections being provided with an aperture and the downturned wall portion on the other sink section being provided with an apertured embossment, the open portion of which faces the stem of the molding strip, and a pin provided with an eccentric portion, one part of which is receivable within the embossment in the downturned wall portion of one of the sink sections and the other part of which is receivable within the aperture in the said stem, said pin also including a threaded portion for engaging the downturned wall of the other sink section when the apertures in the said stem and downturned wall portions of the sink sections are aligned and the pin is inserted therein, whereby when the pin is rotated in the said apertures, the sink sections will be drawn tightly together about the stem of the molding strip as the wing element of the molding strip is drawn tightly against the top surface of a sink section.

4. A joint construction of the type described wherein adjacent sink members and the like are drawn tightly together comprising the combination of a pair of sink sections, each of said sections being provided with a top surface portion and a wall element projecting down-

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wardly therefrom, each of said wall elements in turn being provided with at least one opening therein, a molding strip provided with an apertured stem and a wing member projecting at a transverse angle from the stem at one extremity thereof and located between said sink sections with the stem of the molding strip being positioned directly between the downturned wall elements of the sink sections and a pin member provided with an eccentric portion for engaging the stem of the molding strip and a threaded portion for engaging a sink section when the apertures in the said stem and downturned wall elements are aligned and the pin is inserted therein, whereby when the pin is rotated in the said apertures, the downturned wall elements of the sink sections will be drawn tightly together about the stem of the molding strip as the wing member of the said strip is drawn tightly against the top surface portion of the sink section.

5. A joint construction of the type described wherein adjacent sink members and the like are drawn tightly together comprising the combination of a pair of sink sections, each of said sections being provided with a top surface portion and a wall element projecting downwardly therefrom, each of said wall elements being provided in turn with at least one opening therein, a T-shaped molding strip provided with an apertured stem and oppositely disposed wing members projecting from one extremity of the said stem located between the said sink sections with the stem of the molding strip being positioned directly between the downturned wall elements of the sink sections, and a pin member provided with an eccentric portion for engaging the stem of the T-shaped molding strip and a threaded portion for engaging a sink section when the apertures in the said stem and downturned wall elements are aligned and the pin member is inserted therein whereby when the pin member is rotated in all of the said apertures, the downturned wall elements of the sink sections will be drawn tightly together about the stem of the T-shaped strip as the wing members thereon are drawn tightly against the top portions of the sink section.

6. A joint construction of the type described wherein adjacent sink members and the like are drawn tightly together comprising the combination of a pair of sink sections, each of said sections being provided with a top surface portion and a wall element projecting downwardly therefrom, each of said wall elements being provided with at least one opening therein and one of said wall elements having an embossed portion thereon, a T-shaped molding strip provided with an apertured stem and oppositely disposed wing members projecting from one extremity of said stem located between the said sink sections with the stem of the molding strip being positioned directly between the downturned wall elements of the sink sections, and a pin provided with a head portion and an eccentric portion for engaging the wall element of the sink section provided with said embossed portion, a second eccentric portion for engaging the stem of the T-shaped molding strip and a threaded portion for engaging the downturned wall element of the other sink section when the apertures in the said stem and downturned wall elements are aligned and the pin is inserted therein, whereby when the pin is rotated in said apertures, the downturned wall elements will be drawn tightly against the stem of the T-shaped strip as the wing members thereon are drawn tightly against the top portions of the sink sections.

7. In a joint arrangement wherein a sink member or the like is drawn tightly against a molding strip, the combination of a sink section provided with a top surface

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portion and an apertured wall element projecting downwardly therefrom, a molding strip provided with an apertured stem and a projecting wing element adapted to overlap the top surface portion of said sink section, and a rotatable pin means provided with an intermediate eccentric portion inserted within the apertures in said wall element and said stem for drawing the wall element of said sink section against the stem of said molding strip and the top surface portion of the sink section against the wing element of said molding strip.

8. In a joint arrangement wherein a sink member or the like is drawn tightly against a molding strip, the combination of a sink section provided with a top surface portion and an apertured wall element projecting downwardly therefrom, a molding strip provided with an apertured stem and a projecting wing element adapted to overlap the top surface portion of said sink section and a rotatable pin inserted within the apertures in said wall element and said stem upon the alignment thereof, means on said pin for engaging said wall element and means on said pin for engaging said stem whereby on rotation of said pin in said apertures, said stem will be brought against the wall element contemporaneously with the top surface portion of said sink section being brought into contact with the said wing element on the molding strip.

9. In a joint arrangement wherein a sink member or the like is drawn tightly against a molding strip, the combination of a sink section provided with a top surface portion and an apertured wall element projecting downwardly therefrom, a molding strip provided with an apertured stem and a projecting wing element adapted to overlap the top surface portion of said sink section and a rotatable pin inserted within the apertures in said wall element and said stem upon the alignment thereof, and an eccentric portion on said pin for engaging the wall element whereby on rotation of said pin in said apertures, said stem will be brought against the wall element contemporaneously with the top surface portion of the sink section being brought into contact with the said wing element on the molding strip.

10. In a joint arrangement of the type described, the combination of a sink section provided with a top surface portion and an apertured wall projecting downwardly therefrom, a molding strip provided with an apertured stem and a projecting wing element adapted to overlap the top surface portion of said sink section, a rotatable pin inserted within the apertures in said wall element and the said stem upon the alignment thereof, an eccentric portion on said pin for engaging the wall element and a threaded portion on said pin for engaging the stem of the molding strip, whereby upon rotation of said pin in the apertures in said stem and wall element, the stem will be brought into contact with the wall element contemporaneously with the top surface portion of the sink section being drawn against the wing element of the molding strip.

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