This invention relates to a wooden top structure for covering the open top of a washing vat and the like, more particularly the vat of domestic dishwashing machine, and it has for its object the provision of such a cover in which a wood top section is provided to serve not only as a cover, but also as a kitchen cutting board whereby the functions of the dishwasher are extended.

Another feature of this invention is the provision of a cover structure having a wooden top section wherein the wooden section is supported so that air may circulate under the wooden section as well as on top of it thereby to minimize uneven growth.

Briefly stated, in accordance with one aspect of my invention, I provide a cover structure with a wooden top section arranged so that the grain runs in a predetermined direction. Supporting means for this top section include relatively strong brackets formed of metal for example which are attached to one side of the top section and which function to secure it to a suitable frame also preferably formed of a strong material such as metal. The supporting means including the brackets position the wood top section so that air spaces are provided between the wood section and the frame whereby air may circulate between the wood section and the frame as well as about the opposite side of the section thereby to minimize uneven growth. The brackets are secured to the wood section by pin and slot connection means arranged with the slots elongated in a direction at right angles to the direction of the wood grain. This permits the wood to grow and contract at right angles to the grain which is the direction in which wood naturally tends to expand and contract when subjected to moisture.

For a more complete understanding of this invention reference should be had to the accompanying drawings in which:

FIG. 1 is a sectional elevation view of a dishwashing apparatus provided with cover structure arrangement in accordance with this invention; parts being shown in section and parts being broken away so as to illustrate certain details of construction;

FIG. 2 is an expanded view illustrating certain elements of the cover structure which are shown in perspective;

FIG. 3 is a sectional view of a part of the cover structure shown in FIGS. 1 and 2;

FIG. 4 is a fragmentary sectional view taken through a corner of the cover structure shown in FIGS. 1 and 2; and

FIG. 5 is a sectional view taken at a corner of the cover structure so that it will pass through the line 5-5 of the wooden top section as shown in FIG. 2.

Referring to the drawing this invention has been shown as applied to a portable dishwasher having an upright open top vat 1. This vat preferably is rectangular in horizontal cross-section, and is formed by front and rear walls 2 and 3 and a pair of opposite side walls 4 and 5. The open top portion 6 of the vat 1 is closed by a rectangular cover structure 7 which is provided at its rear with hinge brackets 8 which are hinged to hinge brackets 9 secured to thevat 1. The cover structure 7 is provided at the front with a handle 10. It will be understood that the rectangular cover 7 will have an area substantially the same as the horizontal cross sectional area of the vat 1 so that when it is moved to its closed position shown in FIG. 1 it will completely close the vat. Preferably the upper edge of the vat around the opening 6 will be provided with a resilient seal member 11 with which the cover coacts when it is closed so as to seal the upper end of the vat.

The cover structure 7 arranged in accordance with this invention is provided with an upper rectangular panel 12 formed of wood so that it will constitute a cutting board, and a lower liquid impervious rectangular panel 13 spaced from the panel 12 and which will be formed of any suitable material such as sheet steel, the lower panel shielding the upper wood section from the washing fluid of the vat 1. The sections 12 and 13 are secured together in accordance with this invention so that the wooden section 12 may expand and contract as it is influenced by moisture with respect to the sheet metal panel 13, and the structure is also so arranged that air may flow to the undersurface of the wooden top section 12 in order to minimize uneven growth in the section 12. To these ends, the rectangular panel 13 has substantially the same size as the rectangular top section 12 and at its periphery it is provided with an upright flange 14 which terminates in a horizontally extending flange 15 at the outer edge at which there is a second upright flange 16 which in turn terminates in an inwardly extending horizontal flange section 17. In other words, the structure is such that a horizontal U-shaped flange is provided on the panel 13 spaced somewhat above the general plane of the panels and arranged with the nexus of the U outermost, the nexus joining together the two horizontal flange sections 15 and 17.

The upper flange 17 serves to support directly the top section 12 and for this purpose the top section 12 has secured to each of its four edges a relatively strong metallic bracket 18 extending lengthwise along the bottom of its side portion of the top section 12. Each bracket 18 has a base section 19 which is secured to the top 12 and a section 20 offset downwardly from the bottom surface of the top section 12; and these offset sections 20 are arranged in the assembly to rest directly upon the top surface of flange 17 as shown in FIGS. 1 and 3, and when they support the top 12 on the flange 17 in this way the bottom surface of the top 12 will be spaced upward somewhat from the upper surface of the flange 17.

The brackets 18 are firmly clamped to the outwardly extending U-shaped flange of the panel 13 by means of a clamping band 21 which is of substantially rectangular shape and which is provided with a channel-shaped cross-section, as shown. The channel-shaped part as shown when assembled with the top structure has its upper flange 22 interposed between the offset sections 20 of the brackets 18 and the lower surface of the top section 12 while the lower flange 23 of band 21 will bear against the bottom surface of the outwardly extending flange 15 on the panel 13. In this way the clamping band 21 functions to rigidly secure the top section 12 to the bottom panel 13. Preferably the handle 10 will be secured to the front section of the clamping band 21, and preferably the rear hinge brackets 8 also will be attached to this clamping band 21.

In order to facilitate the assembly of the clamping band 21 it may be formed with a pair of breaks in its rear part so as to define two separate sections, a main substantially U-shaped section 22 and a rear section 22a. The cover hinge brackets 8 would be attached to the rear section 22a and rear parts of section 22.

Preferably and as shown the wooden top section 12 will
be formed of a plurality of elongated rectangular strips of the wood of which the top is made, for example, maple, and these strips will be secured together in side-by-side relationship in any suitable way as by gluing them together. Also, these strips will be so arranged that the grain of the wood of which they are formed will run generally in the same direction, preferably from front to rear of the washing vat and in parallel relation to the two opposed sides of the section 12. In order to permit the wood of the top section 12 to expand and contract uniformly under the influence of changing moisture conditions and which naturally will occur acrosswise of the grain, that is acrosswise of the vat, I secure each bracket 18 to the wooden top 12 by means of a movement from front to rear of the washing vat and in parallel relation to the two opposed sides of the section 12. To this end, I provide pin and slot connections between each bracket and the top consisting of elongated slots 24 formed in the bracket and which receive screws 25 directed through them, the screws being threaded into the wooden top section 12. All of these slots 24 of all of the brackets 18 are positioned with their long dimension at right angles to the direction of the wood grain, as clearly shown in FIG. 2. Thus the screws 25 directed through the slots 24 may move along with the wood top section 12 relative to the brackets 18 and hence to the panel 13. Preferably and as shown circular spring washers 26 will be threaded on the screws to be positioned between the screw heads and the brackets so that the top section 12 will be held against the brackets by a yielding force so-to-speak, the washers 26 yielding to allow the screws and wood to slide against the brackets.

It will be observed in view of the offset sections 20 of the brackets 18 that the undersurface of the top section 12 will be spaced upwardly somewhat from the flanges 17 to permit air to flow in this space. In order to provide for a substantially free flow of air into the space under the top section 12 I arrange the brackets 18 so that their contiguous ends adjacent the corners of the top structure are spaced apart. This spacing apart of the ends of the brackets 18 and the spacing upwardly of the cover section 12 from the flange 17 provide air passageways at the corners, as shown in FIG. 5, leading from the room into the space between the cover panels 12 and 13.

It will be observed therefore that I have provided a cover structure for a dishwashing machine which includes an upper wooden surface which may be used as a cutting board. It will also be observed that I have provided means for permitting wood growth and contraction in the top section 12 and also that I have provided means which permit air to circulate on the top and bottom sides of the wood section 12. This relatively free circulation of the air on all sides of section 12 will minimize uneven wood growth because ambient air with what moisture there is in it may flow into contact with both the top and bottom surfaces of the wood.

While the present invention has been described by reference to a particular embodiment thereof, it will be understood that modifications may be made therein by those skilled in the art without actually departing from the spirit and scope of the invention. What I claim as new and desire to secure by Letters Patent of the United States is:

A wood top structure comprising a relatively flat substantially rectangular top section formed of wood with the grain of the wood running in a predetermined direction parallel to a pair of opposed sides of said section, a substantially rectangular support frame formed on its four sides with flanges, four brackets adjacent the four edges respectively of said top section to fit against said flanges respectively, means securing said brackets to said flanges to secure said top section to said support frame, said brackets each being provided with elongated slots running substantially at right angles to the direction of said grain and headed pins extending through said slots and attached to said top section to secure the top section to said brackets.

2. A cover structure for dishwashers and the like comprising a substantially rectangular top section form of wood with the grain of the wood extending in a direction substantially parallel to a pair of opposed sides of said section, a substantially rectangular support frame having its four sides substantially corresponding in length to the sides of said top section respectively and having a flange on each of said four sides, brackets located adjacent the four sides of said top section, said brackets being provided with a series of elongated slots extending substantially at right angles to the direction of said grain, bolts extending through said slots and attached to said top section to secure said brackets to said section, each of said brackets having a section offset from said top section and fitted against a corresponding one of the said flanges on said frame, U-shaped clamping means having one leg of the U fitted in the space between said top section and said bracket offset sections and the other leg bearing against the bottoms of said flanges on said frame so as to clamp said brackets and hence said top section to said frame, and said slots providing for expansion and contraction of said top section relative to said frame.

3. A cover structure for dishwashers and the like having an open top vat comprising a rectangular metallic panel to overlie said vat having around its edge a peripheral U-shaped flange arranged with the nuxus of the U outermost so that two legs of the U constitute spaced apart upper and lower flanges, a rectangular wooden top section substantially coextensive with said panel and provided at its edge portions with four brackets which have downwardly offset sections rest upon the upper and lower flanges on said U-shaped flange, said brackets having their contiguous ends spaced apart at the corner areas of said top section, a U-shaped clamping member to fit into the space between said brackets and top section and to fit around the nexus and legs of said peripheral flange to secure said top section to said panel, the offset of said bracket sections being sufficient to provide air spaces between said wood top section and said U-shaped flange at the corners of said top section to permit air to pass to the underside of said top section, said wooden top section having the wood grain thereof running in a predetermined direction and said brackets each being provided with a series of elongated slots extending generally at right angles to the direction of said grain, and bolts passed through said slots threaded into said top section to secure said section to said brackets, said slots permitting said bolts to move longitudinally in said slots whereby said top section may expand and contract with respect to said panel.

4. The cover structure specified in claim 3 wherein hinge means are attached to said clamping means for connecting said cover structure to said vat.

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