July 12, 1960 A. EFFGEN 2,944,696

GRID TRAY

Filed Nov. 24, 1958

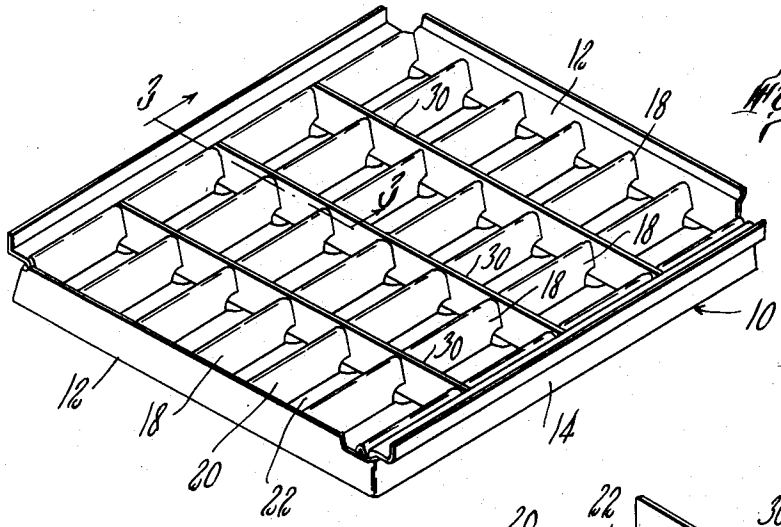


Fig. 1.

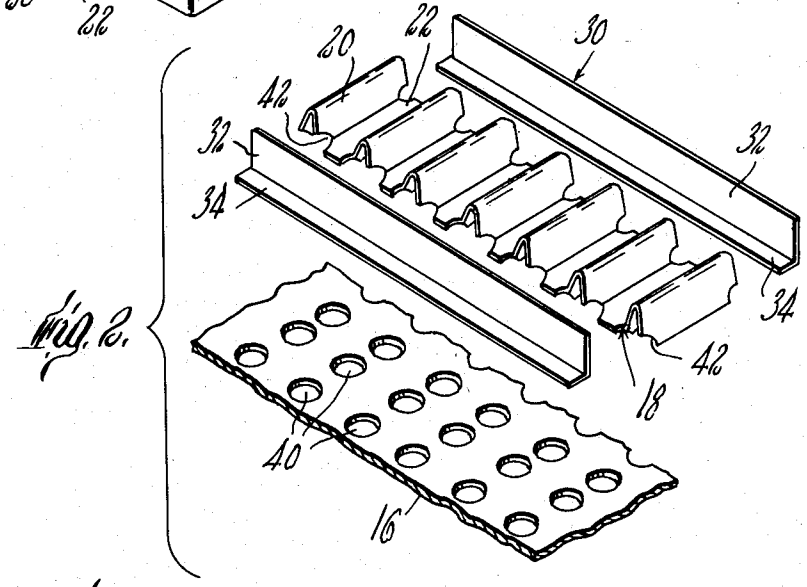


Fig. 2.

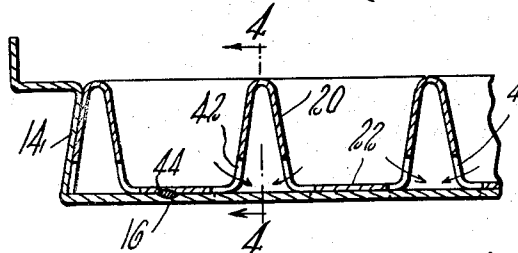


Fig. 3.

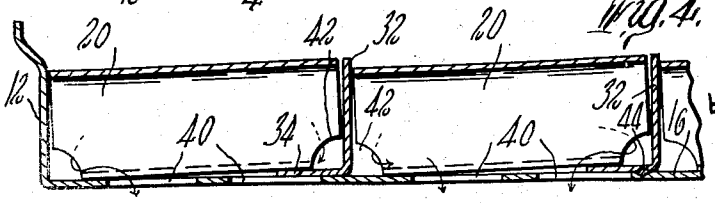


Fig. 4.

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GRID TRAY

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4 Claims. (Cl. 220—22)

This invention relates to a compartmented tray for holding a considerable number of small objects separately for cleansing, as for example grids for vacuum tubes. Such grids must be thoroughly cleansed before being sealed in a tube. For this purpose the grids are submerged in a cleaning liquid and then heated strongly to drive off residual cleaning liquid and to burn off any surface matter which may not have been washed away by the cleaning liquid. It is desirable, however, that the grids be not directly exposed to a flame.

According to the invention, a tray is provided which is made of relatively simple sheet metal stampings, which is provided with drain passages for the escape of cleansing liquid, and which protects the contents of the compartments from contact by a flame which may be directed against the bottom of the tray after the cleansing liquid has been drained off. The construction of the tray is illustrated on the drawing, of which—

Figure 1 is a perspective view of a tray embodying the invention;

Figure 2 is an exploded perspective fragmentary view of sample parts constituting the tray shown in Figure 1;

Figure 3 is a fragmentary sectional view, on the line 3—3 of Figure 1, on a larger scale; and

Figure 4 is a section on the line 4—4 of Figure 3.

The tray illustrated on the drawing is preferably of sheet metal as it is intended for exposure to flame. The tray is composed of a container **10** which is preferably shallow and rectangular in form. This container can readily be made by turning up the margins of a rectangular piece of sheet metal to form the end walls **12** and side walls **14** which rise from the bottom **16** of the container. Within the container are metal strips **18** which have been reversely bent at regular intervals to form inverted-V walls **20** or corrugations spaced by flat floor portions **22**. The corrugated strips **18** are arranged side by side in the container and extend transversely thereof, that is, from one side wall **14** to the other. Between each pair of successive strips **18** is an angle member **30** having an upright vertical portion **32** which rises to substantially the same height as the inverted-V walls **20** and is abutted by ends of the inverted-V walls of the two corrugated strips contiguous thereto. Each angle member **30** also has a horizontal flange **34** which underlies a marginal portion of one of the contiguous strips **18**. The inverted-V walls **20** of the several strips **18** are preferably arranged in alignment, as indicated in Figure 1, so that the walls **20** and the upright portions **32** of the angle members define regular rows and columns of small rectangular compartments in the container **10**, the inverted-V walls forming the longitudinal partitions, the angle members forming the transverse partitions.

To permit the escape of liquid from the container, the bottom **16** thereof is provided with holes **40** which may conveniently be arranged in rows and columns. Each column of holes **40** is located directly under one of the inverted-V walls **20** which extend longitudinally from one end wall **12** to the other except as interrupted by

the transverse partitions **32**. While the side edges of the corrugated strips **20** abut or nearly abut the upright walls **32**, they do not fit tightly against these walls. Hence there are slight clearances through which liquid in the compartments can leak out through the holes **40** so as to drain the container. To expedite such leakage, the ends of the inverted-V wall elements **20** are cut away at the bottom to form openings **42** from the interior of each compartment to the inside of the inverted-V walls thereof, these walls being directly over the holes **40**. The holes **40**, however, are longitudinally offset from the openings **42**, except where the flanges **34** underlie such openings, so that there is no direct aperture or passage from within the container through the bottom thereof, the drainage passages being tortuous, so that if flame is directed against the bottom of the tray, the contents of the compartments will be shielded from direct contact by the flame.

In making the corrugated strips **18**, a blank of suitable length is notched along its side edges at the places where the bends will be made to form the bases of the inverted-V walls. If these notches are semicircular, the resulting corrugated strip will have cut-away corners **42** not only of the walls **20** but also of the flats **22** to facilitate the escape of liquid from the compartments.

The tray consisting of the parts assembled as shown, is usable even if the strips **18** and angle members **30** are not secured in place. I prefer, however, to attach the strips and angle members permanently to the container. For this purpose a few spot welds **44** are convenient and effective. A couple of such welds through each side margin of each strip **18** and the bottom **16** will usually be ample for the purpose.

I claim:

1. A compartmented tray comprising a shallow rectangular container with side walls and end walls, means dividing the interior of the container into rows and columns of rectangular compartments, said means comprising a series of elongated strips arranged side by side in said container and extending from one side wall to the other thereof, and an angle member between each pair of successive strips, said angle members extending from said one side wall of the container to the other side wall thereof, said strips being shaped with reversely bent portions forming at intervals inverted-V walls which rise to substantially the same height as said angle members and define therewith said compartments, the bottom of said container having holes therethrough under said inverted-V walls but offset from the side edges of said strips.

2. A tray as described in claim 1, each said inverted-V wall being cut away at its bottom at both ends thereof.

3. A tray as described in claim 2 and spot welds securing said strips and angle members to the bottom of said container.

4. A compartmented tray comprising a shallow rectangular container with side walls and end walls, said container having a series of holes through the bottom thereof arranged in transverse rows and longitudinal columns, a plurality of elongated transversely corrugated members within said container extending transversely thereof from one side wall to the other, whereby the corrugations of said members extend longitudinally of the container, the corrugations of said member consisting of inverted-V walls alternating with flat floor portions, and an angle member extending transversely of the container from one side wall thereof to the other between each successive pair of corrugated members, the upright portion of each angle member being disposed between ends of the inverted V-walls of one contiguous corrugated member and ends of the inverted V-walls of the other corrugated member contiguous thereto,

each said angle member having a horizontal flange disposed between a margin of one of the corrugated members contiguous thereto and the bottom of said container, the inverted V-walls of each corrugated member being aligned with corresponding V-walls of all the other corrugated members in the container to form longitudinal compartment walls interrupted by said transversely extending angle members and registering with columns of said holes through the bottom of said container, the side

edges of said corrugated members being offset from said holes, whereby there is no direct opening from the interior of the container through the bottom thereof.

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