Dec. 1, 1953 R. R. BENNIGHOF 2,661,118

HOUSING CLOSURE

Filed July 25, 1950 2 Sheets-Sheet 1

FIG. 1.

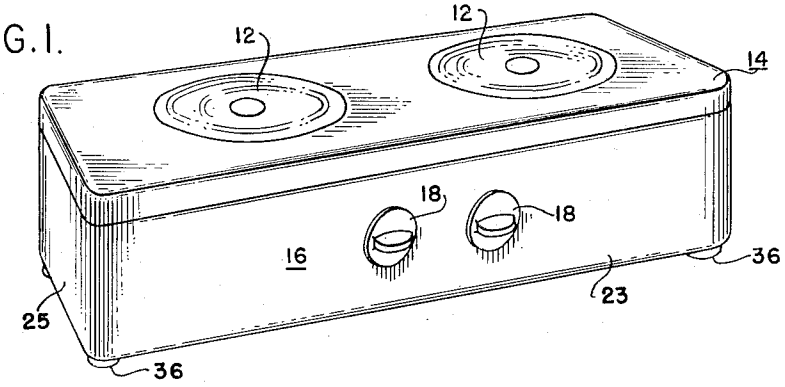


FIG. 2.

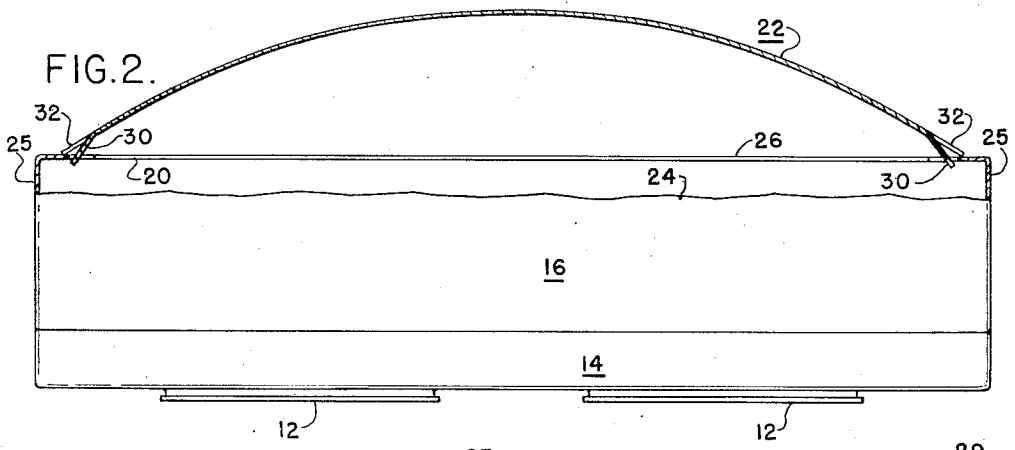
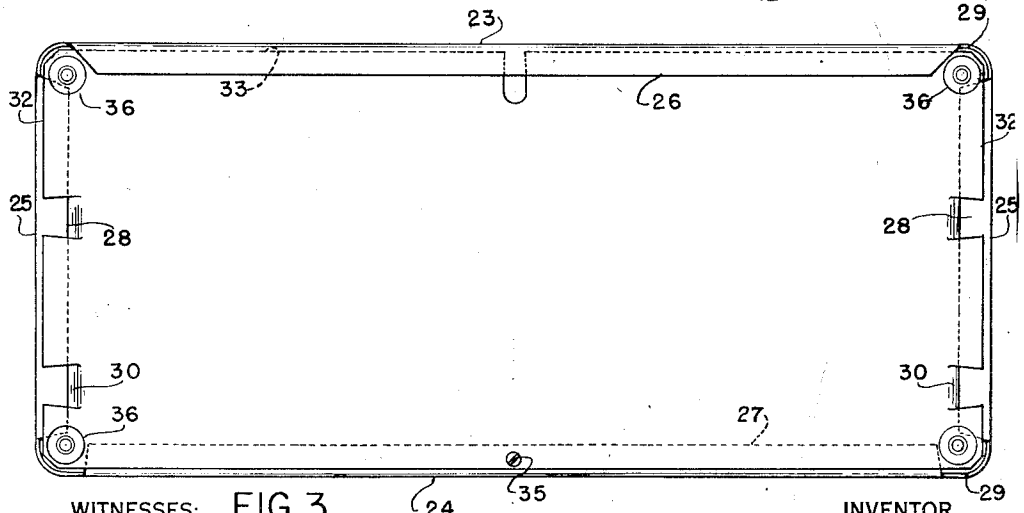


FIG. 3.



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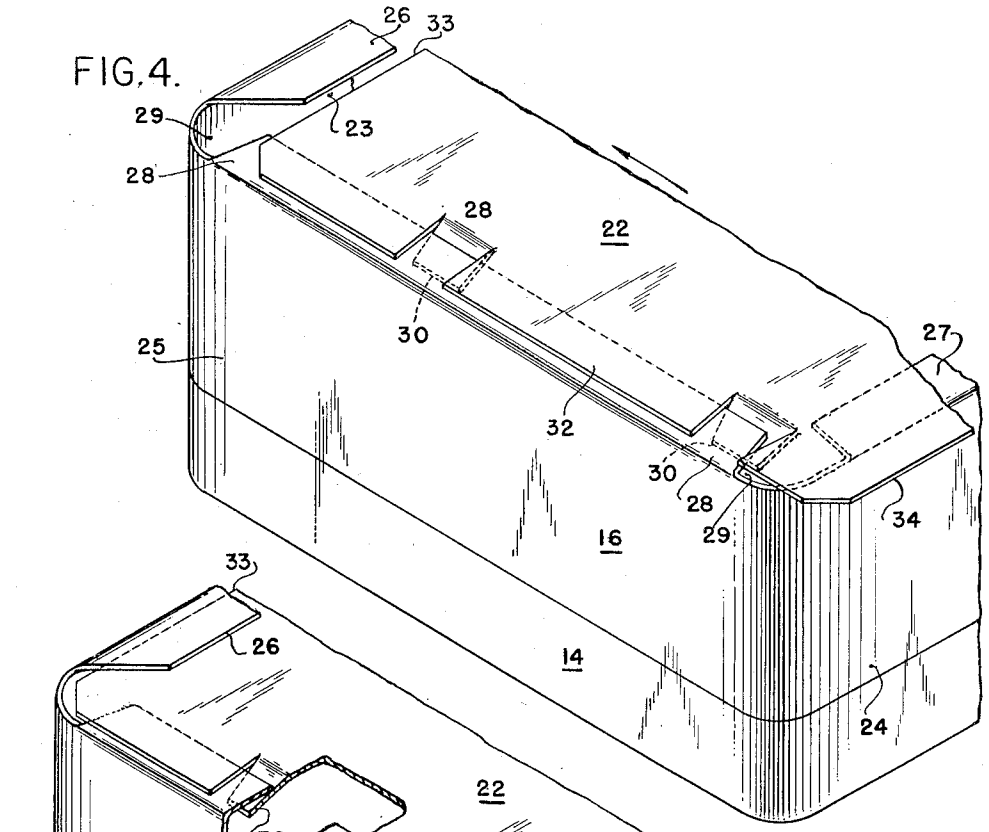
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HOUSING CLOSURE

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FIG. 4.



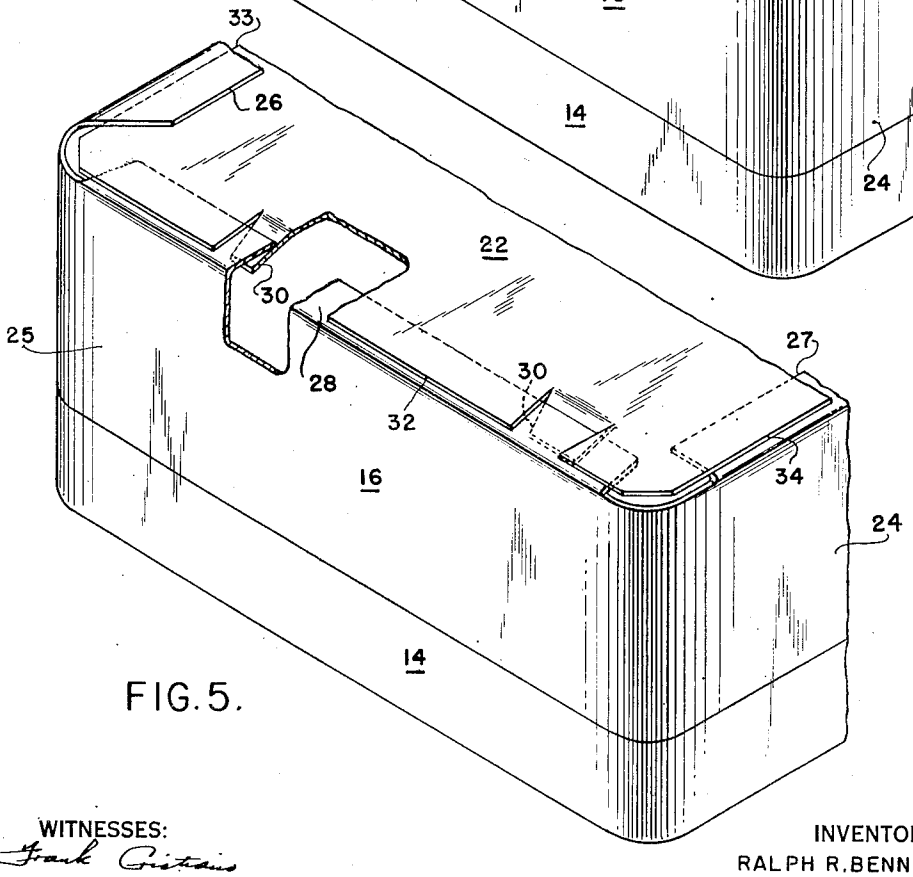


FIG. 5.

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UNITED STATES PATENT OFFICE

2,661,118

HOUSING CLOSURE

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Application July 25, 1950, Serial No. 175,753

5 Claims. (Cl. 220—24)

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This invention relates to sheet material housings in general and more particularly to sheet metal housings for small appliances.

An object of the invention is to provide a housing in which a flanged opening may be closed by a cover member which may be installed with a minimum of time and effort.

Another object is to provide a housing in which a flanged opening may be closed by a cover member held securely in position with a minimum number of screws.

A further object is to reduce the labor necessary to provide a closure for a housing, thereby effecting a reduction in cost.

These and other objects are effected by the invention as will be apparent from the following description and claims taken in connection with the accompanying drawings, forming a part of this application, in which:

Fig. 1 is a front perspective view of an electric hot-plate embodying the invention;

Fig. 2 is a side elevation of the hot-plate, in inverted position and with parts in section, showing a stage in the assembly;

Fig. 3 is a bottom view;

Fig. 4 is a fragmentary perspective view of the hot-plate, in inverted position, showing a stage in the assembly; and

Fig. 5 is a view similar to Fig. 4, but showing the completed assembly.

Referring to the drawings in detail and especially to Fig. 1, there is shown an electric hot-plate, embodying the invention, and having a plurality of surface heating units 12 mounted in a sheet metal platform 14. The platform 14 is superimposed on a body member 16 on which are mounted switches 18 for controlling the operation of the surface heating units 12, as well understood in the art.

Referring to Figs. 2, 3 and 5, the body 16 has an open bottom end 20 which is closed by a flat bottom cover member 22 conforming generally in size and shape to the bottom of the body. The body 16 is generally rectangular in shape and is provided with a pair of oppositely disposed walls 23 and 24 and a second pair of oppositely disposed walls 25. The walls 23 and 24 have their end portions bent inwardly to provide flanges 26 and 27, respectively, and the walls 25 have their end portions disposed inwardly to provide a pair of flanges 28. The flanges 26, 27 and 28 are discontinuous, there being a cut-away portion 29 adjacent each corner of the body 16.

The cover member 22 is preferably made of flexible sheet metal and is provided with a plu-

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rality of integral tongues 30 which may be formed therein by lancing. Although any number of tongues may be provided as desired, I have shown the cover as having four tongues, one pair of tongues being disposed in each of a pair of oppositely disposed edges 32. The tongues may be offset with respect to the plane of the cover and are substantially longer than the width of the flanges 28 for a purpose which will be subsequently described.

As best shown in Fig. 2, the cover may be mounted on the body 16 by bowing the cover temporarily to permit partial insertion of the tongues 30 under the flanges 28 of the body. On releasing the cover it will return to its normal flat shape, causing the tongues to be further inserted below the flanges 28 as best shown in Fig. 4. It will be noted that the cover is initially applied to the body slightly out of registry with the open end 20. Thus, the cover has one edge portion 33 spaced from the flange 26, while the opposite edge portion 34 overlies the flange 27 and overhangs the wall 24. By moving the cover in the direction of the arrow and exerting a downward force on the edge portion 33 thereof, such edge portion may be inserted below the flange 26, as shown in Fig. 5 and the cover is brought into registry with the open end 20. The edge portion 34 of the cover 22 abuts the upper surface of the flange 27 of the body and the cover is rigidly held to the body by the locking engagement of the tongues 30 with the flanges 28 and the frictional engagement of its edge 33 with the flange 26. Although not entirely essential, if desired, the edge 34 may be detachably secured to the flange 27 by a screw 35 or other locking means.

The cover 22 may be removed from the body 16, if necessary for servicing purposes, by reversing the above sequence of operations.

The cover may also be provided with a plurality of insulated supporting feet 36, located adjacent the corners of the cover plate 22, to prevent scratching or overheating of a polished table surface when the hot-plate is placed thereon.

It will now be seen that there has been provided a sheet metal cover member which may be attached to a body with a minimum of labor and time. Critical alignment of the numerous holes usually required in the cover and body for screws is substantially reduced by the omission of all but one pair of holes. Also, a considerable saving is effected by the substantial reduction in the number of screws required. The invention lends

itself to rapid assembly methods desirable in present mass production techniques.

While the invention has been shown in but one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various changes and modifications without departing from the spirit thereof.

What I claim is:

1. A sheet material housing comprising a body member having an open end and having at least a pair of oppositely disposed walls and a third wall connecting said opposite walls, each of said walls having an inwardly disposed flange at said open end, and a flexible cover member for said open end conforming substantially in size and shape to said open end, said cover having a pair of oppositely disposed edges and a third edge connecting said opposite edges, each of said opposite edges having an integral tongue, and said cover being adapted to be bowed temporarily to permit said tongues to be inserted beneath the flanges of said opposite walls, said cover being slidable thereon to permit said third edge to be inserted beneath the flange of said third wall, thereby securing said cover to said body.

2. A sheet material housing comprising a body member open at one end and having a plurality of side walls including a pair of oppositely disposed walls and a third wall connecting said oppositely disposed walls, each of said walls having an inwardly disposed flange at said open end, and a flexible cover member for said open end conforming substantially in size and shape to the cross-sectional area included by said side walls, said cover having a pair of oppositely disposed edges and a third edge connecting said oppositely disposed edges, said opposite edges having integral tongues disposed beneath the flanges of said opposite walls and said third edge being disposed beneath the flange of said third wall.

3. A sheet material housing comprising a body member open at one end and having two pairs of oppositely disposed walls, each of said walls having an inwardly disposed flange at said open end, said flanges comprising a first and a second pair of flanges and a flexible cover member having a first and a second pair of oppositely disposed edges, said first pair of edges having integral tongues inserted beneath said first pair of flanges, one of said second pair of edges being inserted beneath one of said second pair of flanges and the other of said second pair of edges overlying the other of said second pair of flanges and being detachably secured thereto.

4. A sheet material housing comprising a body member having two pairs of oppositely disposed walls and having an open end, each of said walls having an inwardly extending flange at said open end, a cover member for said open end conforming substantially in size and shape to the cross-sectional area included by said walls, an oppositely disposed pair of the edges of said cover member having tongues inserted beneath an oppositely disposed pair of said flanges, a third edge of said cover member being inserted under a third one of said flanges, said tongues being spaced from a fourth edge of said cover member a distance equal to or greater than the width of said third flange to permit said cover member to slide on said pair of flanges for insertion of said third edge under said third flange.

5. A sheet material housing comprising a body member having two pairs of oppositely disposed walls and having an open end, each of said walls having an inwardly extending flange at said open end, a resilient cover member for said open end conforming substantially in size and shape to the cross-sectional area included by said walls, an oppositely disposed pair of edges of said cover member having tongues inserted beneath an oppositely disposed pair of said flanges, said insertion being permitted when said cover is temporarily bowed, a third edge of said cover member being inserted under a third one of said flanges, said tongues being spaced from a fourth edge of said cover member a distance equal to or greater than the width of said third flange and said cover being slidable on said pair of flanges to permit such insertion.

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