

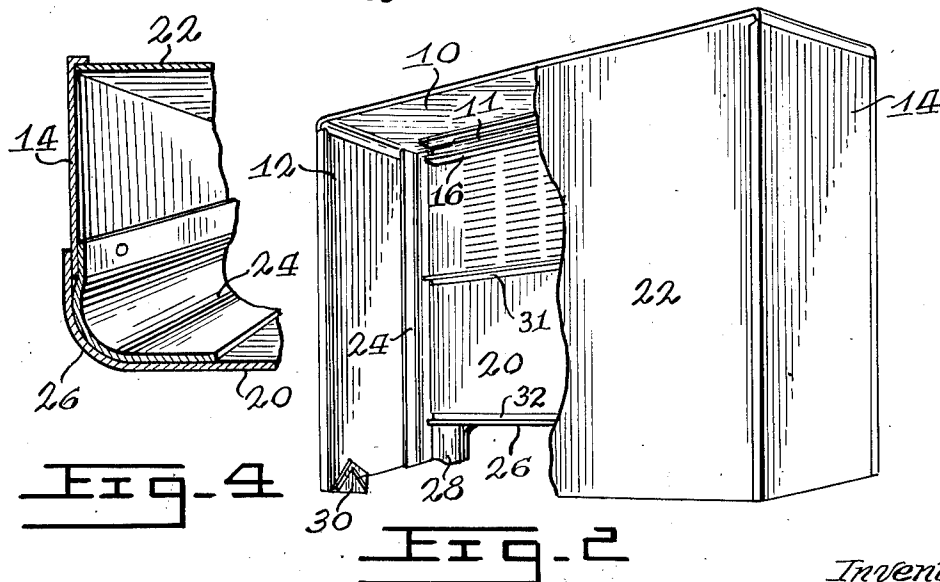
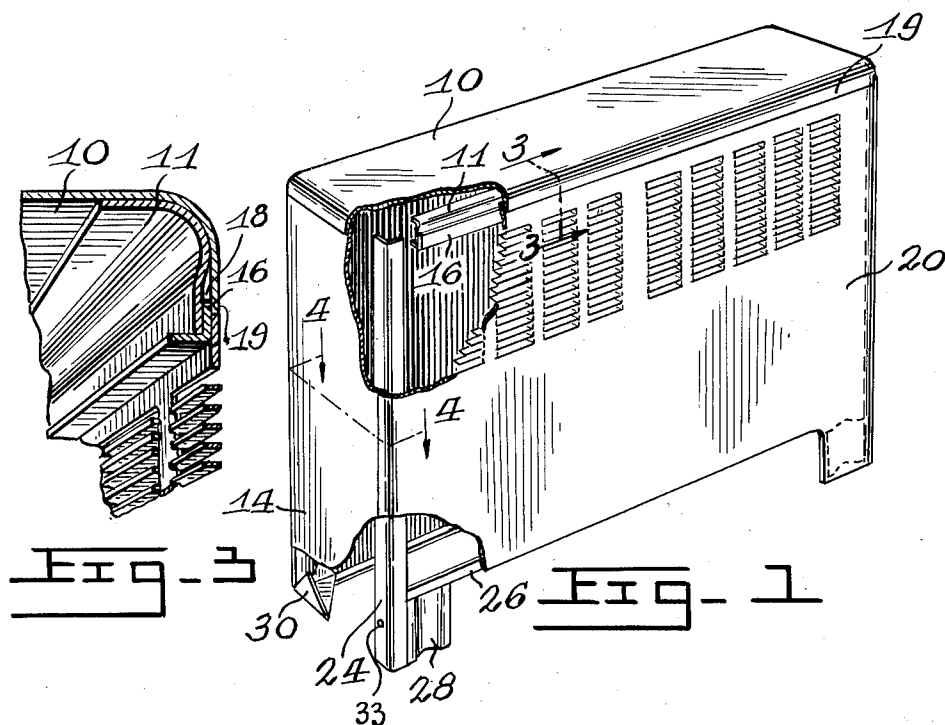
Dec. 23, 1952

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2,622,807

CONVECTOR RADIATOR CABINET WITH REMOVABLE FRONT PANEL

Filed March 11, 1950



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UNITED STATES PATENT OFFICE

2,622,807

CONVECTOR RADIATOR CABINET WITH
REMOVABLE FRONT PANEL

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Application March 11, 1950, Serial No. 149,140
In Canada March 12, 1949

2 Claims. (Cl. 237—79)

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Introduction

The present invention relates to casings or cabinets for covering and enclosing convector radiator elements, and more particularly to convector radiator cabinets of the type that include a removable front panel.

While there are, at the present time, cabinets with removable fronts available, most of these are either flimsy or include costly expedients to strengthen them. Many of these cabinets are also difficult to assemble or to open for cleaning and have no provision to facilitate refitting once disassembled. Others embody costly expedients to overcome these disadvantages.

The present invention aims to provide a convector or radiator casing assembly having a removable front panel which may be easily and quickly installed or removed and yet it is attractive and will withstand the roughest use.

Applicant's development

The type of convector radiator cabinet in which the invention is embodied has an interconnected top, back and sides constituting an open-faced casing. A front panel is provided that is adapted to be removably attached to this casing. All these parts are preferably of sheet metal for example, steel or aluminum. The casing, preferably spot-welded together, is self-supporting and is usually fastened to the wall in a position to enclose the convector radiator element. The top of the casing is formed to have a downwardly-extending or vertical flange portion extending along the front edge of the top.

This flange and the horizontal part of the top preferably merge in a rounded portion with the leading edge of the flange adapted to abut the top leading edge of the front panel. The front panel is provided with inturned end portions or side flanges, the leading edges of which are adapted to overlap the sides of the casing.

In accordance with the invention, a connecting member, preferably a formed metal springing strip, extends in its linear direction practically the entire length of the top. The strip is connected near its rear edge, for example by spot-welding, to the front horizontal portion of the top and is free of connection throughout the remainder of its width. The strip takes a joggle above the leading edge of the top flange and is thus offset from the top flange to form a groove between the top flange and the strip. The projecting portion of the strip presents a backing for purposes to be described.

The front panel includes, connected to it along

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its top margin and projecting therebeyond in a tongue, a reinforcing strip, preferably including a rearwardly-extending portion constituting a rest for purposes to be described.

Each inturned end portion of the front panel is provided with a connecting member, for example, a springing strip which extends the entire length of the inturned flange and has a portion extending thereabove. The strip is connected near its rear edge, for example, by spot-welding, to the front portion of the front panel and is free of connection throughout the remainder of its width. The strip takes a joggle inwards of the leading edge of the side flanges and is thus offset from this flange to form a groove.

In assembly, the front panel is brought towards the casing at an angle so that the top reinforcing or connecting strip engages against the projecting portion of the springing strip on the leading edge of the top. At the same time, the tops of the leading edges of the sides of the casing are introduced into the side grooves of the front panel. Then, the front panel is swung down into vertical position so that the reinforcing strip is forced upwards to key into position in the groove in the top and the side grooves in the panel are forced inwards until they completely confine the leading edges of the sides of the casing. The front panel is then locked into position by suitable fastening means, for example screws, which pass through the side leading edge of the front panel, the lower leading edge of the side of the cabinet and the side springing strips.

The connecting members on the top and side flanges have been described as springing strips. This is a preferred construction. Other expedients might be employed for carrying out the broad conception of the invention which is to form a connection between the leading edge of the front panel and the front flange, and between the leading edge of the sides and the side flange which extend substantially the entire length of these parts as compared with the usual clips connecting the adjacent parts at intervals only.

Detailed description

Having thus generally described the nature of the invention particular reference will be made to the accompanying drawings illustrating specifically a preferred embodiment of the invention, in which:

Figure 1 is a front elevation in perspective of a preferred form of a radiator convector cabinet assembly constructed according to the invention

and partially broken away to show structural features.

Figure 2 is a rear elevation of the cabinet shown in Figure 1 partially broken away to show structural features.

Figure 3 is a diagrammatic detail view being virtually a cross section in perspective along the line 3—3 of Figure 1.

Figure 4 is a diagrammatic detail view being virtually a cross section in perspective along the line 4—4 of Figure 1.

With particular reference to the drawings, the preferred construction of a convector radiator cabinet assembly illustrated includes a top panel 10, a back panel 22, side panels 12, 14 and removable front panel 20. The top panel 10 is formed to have a downwardly-extending flange 19 which overlaps the sides of the cabinet assembly. A springing strip 11 is fastened adjacent to the top flange 19 along the substantially entire leading edge of the top panel 10 and is shaped as best indicated in Figure 3 to conform to the contour of the top panel 10. This strip 11 preferably includes a joggle and is attached to the top panel 10, for example by the spot-welding of its upper edge to give the joggled portion at the lower edge the ability to spring away from the flange 19.

The joggled portion of the springing strip 11 is spaced from the top flange 19 to form a connecting groove 16. A portion of the springing strip 11 extends beyond the leading edge of the top flange.

In the preferred form of construction illustrated, there is mounted on the top inside edge of the front panel 20 a metal angle 15 one flange of which extends upwards beyond the leading edge of the front panel and the other flange of which extends rearwardly. The angle extends substantially the entire width of the front panel.

The front panel 20 is formed to have inwardly-extending side flanges 26 adapted to overlap the side panels 12, 14, and springing strips 24 are fastened along both of these flanges. The strips 24 are also joggled to provide a space between them and the side flanges 26 to receive the front edges of the side panels 12, 14. The strips 24 are attached adjacent to the side flanges 26 in a similar manner as the springing strip 22 on the top flange.

The front panel also includes reinforcing metal members 31 and 32 which extend across the panel just below the front grille and just above the cut-out. These members are connected, for example, by welding to the upright reinforcing strips 24 in such a manner that the strips 24 form with the members 31 and 32 a framework supporting the front panel. Another supporting member 28 which is in the nature of a bowed metal leg extends outward on the inside face of the front panel at the edge of the cut-out and adjacent to each reinforcing strip 24.

In assembly, the front panel 20 is brought towards the casing formed by the top, sides and back at an angle so that the strip 16 engages against the projecting portion of the springing strip 11. At the same time, the tops of the leading edges of the sides 14 are introduced into the side grooves of the front panel formed between the strips 24 and the side flanges 26. Then, the front panel 20 is swung down into vertical position so that the vertical flange of the angle 15 is forced upwards to key into position in the groove formed between the top flange 19 and the strip 11, and the side flanges 26 are brought inwards until they overlap the sides and the leading

edges of the sides 12 and 14 are completely confined between the flange 26 and the strips 24. The front panel is then locked into position by suitable fastening means, for example, screws 33 which extend through the flanges 26, the leading edges of the sides 14 and the strips 24.

The springing strips 11, 24 and the reinforcing angles 16, 31, 32 are preferably made of sheet metal suitably formed or alternatively may be extruded sections cut to the proper lengths. In the preferred construction, the springing strips 24 are arranged to project above the top of the removable panel 20 and are formed so as to fit snugly into the inner radii of the top panel.

The present arrangement of overlapping flanges and springing strips cooperating between the front panel and the top and sides of a cabinet assembly therefore provides a means whereby the front panel is retained firmly and rigidly in closed position with no chance of "gapping" between the front panel and the top or sides. This form of construction provides a distinct advantage over prior structures of this nature in that it can be easily and quickly removed without the use of tools or the necessity of removing any bolts or screws.

In accordance with a refinement of the invention the back is provided with a flange intumed towards the front and a metal insert 30 having a triangular base of upstanding wings connecting the back and side to form a reinforced corner.

I claim:

1. A cabinet assembly of the type including a casing adapted to cover a radiator or convector and having a back, a top, sides, and a removable front panel, a downwardly extending front flange on the casing top, and inwardly extending side flanges on the front panel; a top connecting member comprising a formed resilient strip secured adjacent the leading edge of the top panel and extending substantially the entire length of said top flange forming thereof a connecting groove, said resilient strip having a portion connected to the casing top panel remote from the edge of the top flange, and a portion free of said top panel and extending to a point beyond said top flange, a front connecting member extending substantially the entire length of the top leading edge of the front panel, said front connecting member being adapted to engage in said groove whereby the top of said front panel is held in position adjacent to the top flange, and connecting members overlapping between the casing sides and the front panel side flanges for substantially the entire length of these members whereby the adjacent portions of the respective members are held in positive relationship throughout their entire length to prevent gapping therebetween.

2. A removable front panel for a radiator or a convector casing, said front panel having at each end inwardly extending side flanges adapted to be connected to the sides of the casing, and a straight top marginal edge adapted to be connected to the top of said casing, an L shaped front connecting member having one leg secured to said front panel adjacent the top marginal edge and extending thereabove with the other leg of said connecting member extending inwardly from said front panel, said connecting member extending substantially the entire length of the top marginal edge of said front panel, each side flange of said front panel being a continuation thereof and being shaped to present a quar-

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ter-circular corner portion terminating in a straight portion disposed substantially at right angles to the front face of said panel and each being provided with a side connecting member comprising a springing strip having a portion 5 formed to correspond with the curved corner portion of said front panel side flange and having a straight terminal edge portion jogged inwardly from said curved portion disposed parallel with 10 and in spaced apart relationship from said side flange straight portion and extending beyond the leading edge of said side flange terminal portion, the other edge portion of said springing strip being secured to the front face of said front 15 panel with the portions disposed in juxtaposed relationship with said front panel side flange being unconnected and spaced apart therefrom

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to form a connecting groove extending substantially the length of said front panel side flange.

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