Feb. 14, 1939. W. H. FRANK ET AL 2,147,023

PANEL BOARD

Original Filed May 13, 1935 2 Sheets-Sheet 1

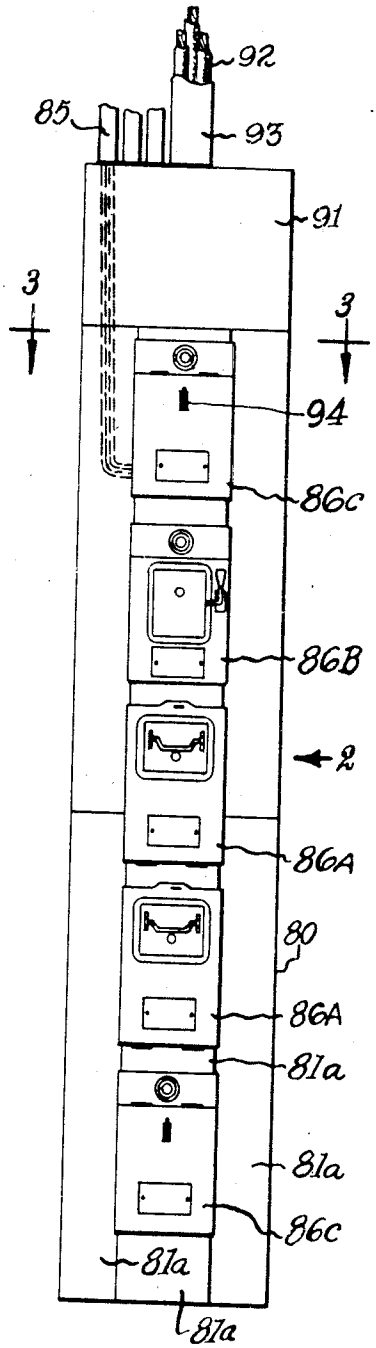


Fig. 1

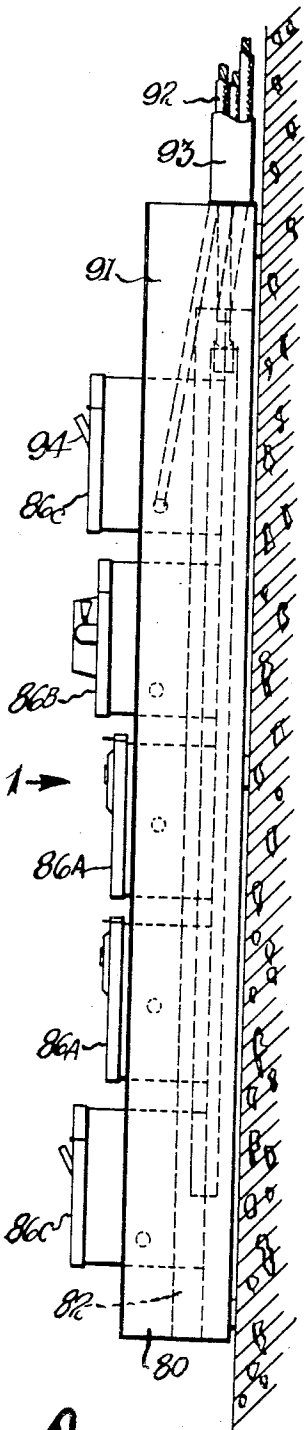


Fig. 2

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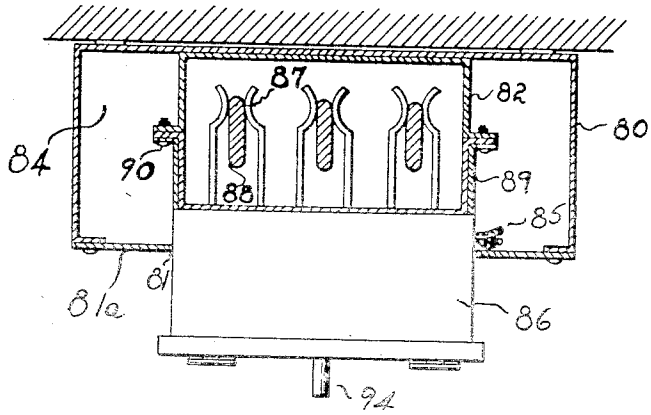


Fig. 3

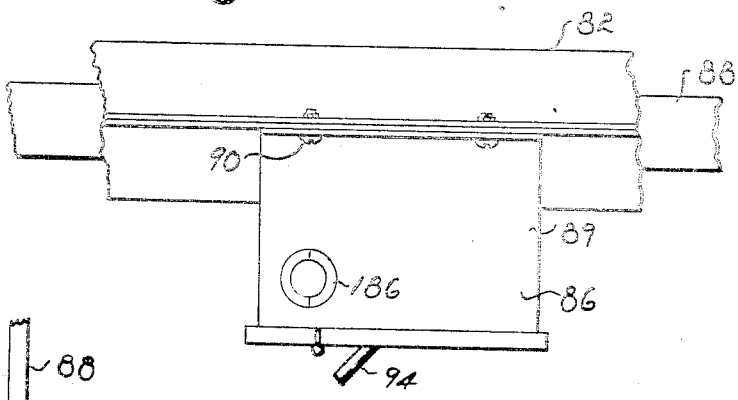


Fig. 4

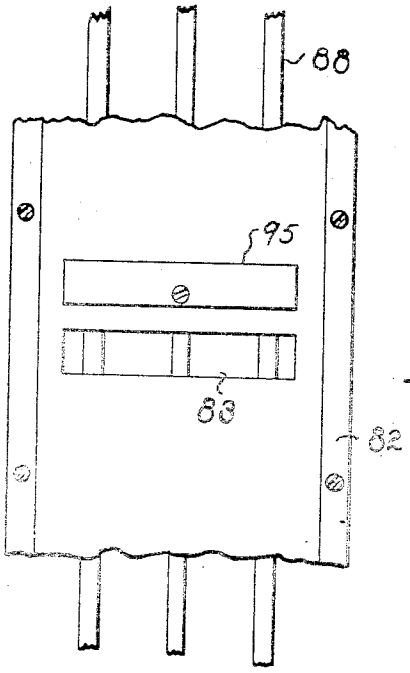


Fig. 5

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2,147,023

UNITED STATES PATENT OFFICE

2,147,023

PANEL BOARD

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Original application May 13, 1935, Serial No. 21,114, now Patent No. 2,103,325, dated December 28, 1937. Divided and this application May 17, 1937, Serial No. 143,233

7 Claims. (Cl. 247—10)

This application relates to panelboards and is a division of application Serial No. 21,114 of May 13, 1935, now Patent #2,103,325, Dec. 28, 1937.

The panelboard hereof is shown in the appended drawings. In these drawings,

Figs. 1 and 2 are front and side views of a panelboard of the invention.

Fig. 3 is a section on line 3—3 of Fig. 1;

Figs. 4 and 5 are detail views.

Figs. 1 to 5 show a wall mounted panelboard formed of a steel cabinet 80 having openings 81 in its front wall 81a and containing a bus duct 82 of the character shown in Patent No. 2,041,675 of May 19, 1936, the latter having in its front wall openings 83 aligned with those of the front wall of the cabinet. The spaces 84 between the sides of the duct and the sides of the cabinet form gutters for branch circuit conductors 85 whose terminals are connected to removable branch circuit control plugs 86 of various types, the conductors entering the plugs through side openings 186. For example, the plugs 86A may be of the switching type shown in Patent No. 2,059,987 of November 3, 1936; plugs 86B may be of the circuit breaker type shown in application Serial No. 48,502 of November 6, 1935; plugs 86C may be of the switching type shown in Patent No. 2,088,105 of July 27, 1937.

The plugs are in the nature of open backed steel boxes containing connectors for terminals of the branch circuit conductors 85 and having back projecting prongs 87 which may be projected through the holes 83 of the duct when the plugs are disposed within the front holes of the cabinet front, the prongs thus engaging the bus bars 88 within the duct.

It will be understood that when the plugs are not in place on the duct, the interiors of the plugs and the holes of the duct are exposed; however, when the plugs are within the cabinet holes and their side extensions 89 are fastened to the duct by suitable fastening means 90, the plugs seal the holes 83 of the duct and also fill the holes 81 of the cabinet front, and at the same time the duct seals the open backs of the plugs, gaskets being provided at the back edges of the plugs to help establish such seals.

The front of the cabinet is referenced 81a and in this front are the holes 81 filled by the plugs 86 when the plugs are in place. Behind this front are the gutters 84 for the branch circuit conductors 85 which enter the plugs through holes 186 in the sides thereof so located as to be within the cabinet and concealed by the cabinet front when the plugs are on the duct.

Within the cabinet and above the upper end of the duct is a space 91 into which project the upper ends of the bus bars 88 of the duct whereby these may be connected to the termini of the main feed conductors 92 contained within the conduit 93.

On the fronts of the plugs are handles 94 for permitting manipulation of the switches and circuit breakers formed as parts of the plugs.

On the duct are mounted covers 95 which may be moved to open or close the holes 83.

Now having described the panelboard, reference will be had to the claims which follow for a determination of the monopoly sought herein.

We claim:

1. A panelboard comprising a cabinet having openings in its front wall, a bus duct within the cabinet having openings alined with those of the cabinet, there being gutters or spaces between the sides of the duct and the sides of the cabinet, removable plugs disposed in and filling the cabinet openings and having on their backs prongs disposed within the duct openings, the plugs having openings therein so located as to be within the cabinet and concealed by the cabinet front when the plugs are on the duct, and load conductors within the gutters and entering the plugs through their side openings.

2. A panelboard comprising a cabinet having openings in its front wall, a bus duct within the cabinet having openings alined with those of the cabinet, there being gutters or spaces between the sides of the duct and the sides of the cabinet, removable plugs disposed in and filling the cabinet openings and having on their backs prongs disposed within the duct openings, the plugs having openings therein so located as to be within the cabinet and concealed by the cabinet front when the plugs are on the duct, and load conductors within the gutters and entering the plugs through their side openings, the fronts of the plugs having thereon handles for manipulating switches within the plugs.

3. A panelboard comprising a cabinet having openings in its front wall, a bus duct within the cabinet having openings alined with those of the cabinet, there being gutters or spaces betwen the sides of the duct and the sides of the cabinet, removable plugs disposed in and filling the cabinet openings and having on their backs prongs disposed within the duct openings, the plugs having openings therein so located as to be within the cabinet and concealed by the cabi-

net front when the plugs are on the duct, and load conductors within the gutters and entering the plugs through their side openings, the backs of the plugs being normally open and sealed by the engagement of the back edges of the plugs with the duct.

4. A panelboard comprising a cabinet having openings in its front wall, a bus duct within the cabinet having openings alined with those of the cabinet, there being gutters or spaces between the sides of the duct and the sides of the cabinet, removable plugs disposed in and filling the cabinet openings and having on their backs prongs disposed within the duct openings, the plugs having openings therein so located as to be within the cabinet and concealed by the cabinet front when the plugs are on the duct, and load conductors within the gutters and entering the plugs through their side openings, and means for securing the plugs directly to the duct.

5. Panelboards comprising cabinets having openings in their front walls, bus ducts within the cabinets having openings alined with those of the cabinets, there being gutters or spaces between the sides of the ducts and the sides of the cabinets, removable plugs disposed in and filling the cabinet openings and having on their backs prongs disposed within the duct openings, the plugs having openings therein so located as to be within the cabinets and concealed by the cabinet fronts when the plugs are on the ducts, and load conductors within the gutters and entering the plugs through their side openings.

6. Panelboards comprising cabinets having openings in their front walls, bus ducts within the cabinets having openings alined with those of the cabinets, there being gutters or spaces between the sides of the ducts and the sides of the cabinets, removable plugs disposed in and filling the cabinet openings and having on their backs prongs disposed within the duct openings, the plugs having openings therein so located as to be within the cabinets and concealed by the cabinet fronts when the plugs are on the ducts, and load conductors within the gutters and entering the plugs through their side openings, the backs of the plugs being normally open and sealed by the engagement of the back edges of the plugs with the ducts.

7. Panelboards comprising cabinets having openings in their front walls, bus ducts within the cabinets having openings alined with those of the cabinets, there being gutters or spaces between the sides of the ducts and the sides of the cabinets, removable plugs disposed in and filling the cabinet openings and having on their backs prongs disposed within the duct openings, the plugs having openings therein so located as to be within the cabinets and concealed by the cabinet fronts when the plugs are on the ducts, and load conductors within the gutters and entering the plugs through their side openings, and means for securing the plugs directly to the ducts.

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