April 4, 1967 H. I. STANBACK 3,312,873

ADJUSTABLE MOUNTING MEANS

Filed Oct. 11, 1965

Fig. 1.

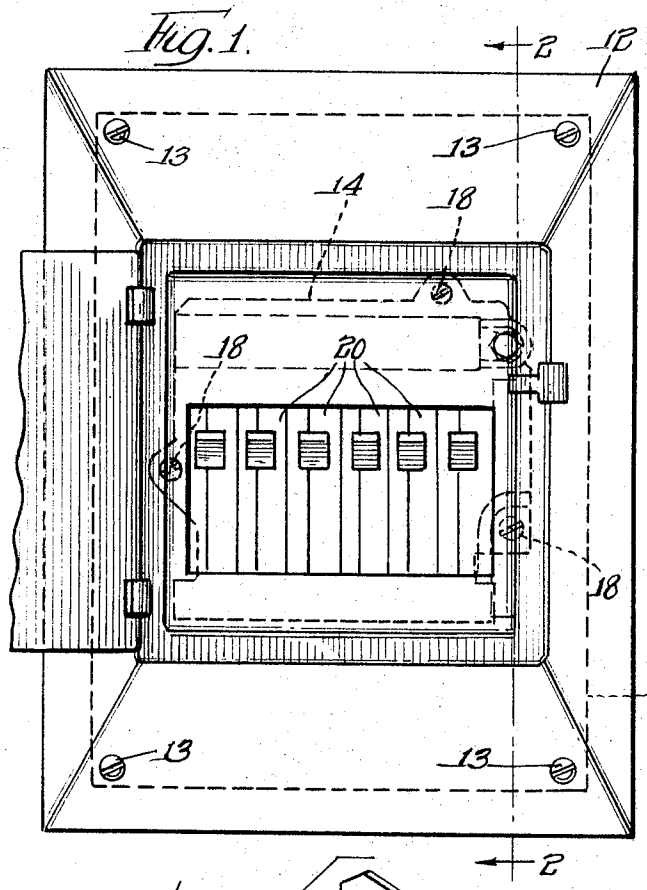


Fig. 2.

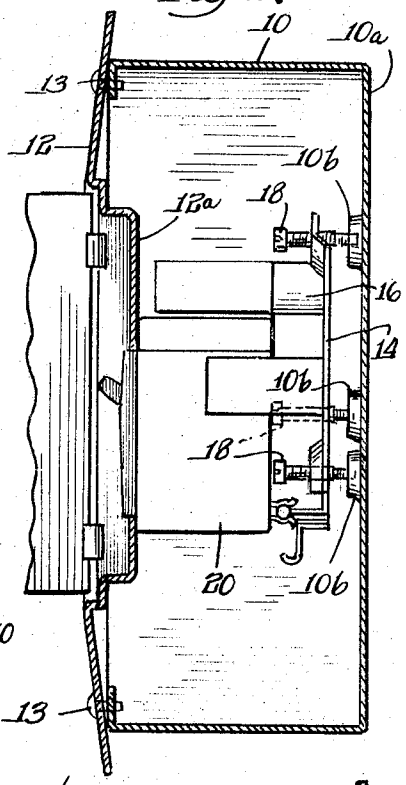


Fig. 3.

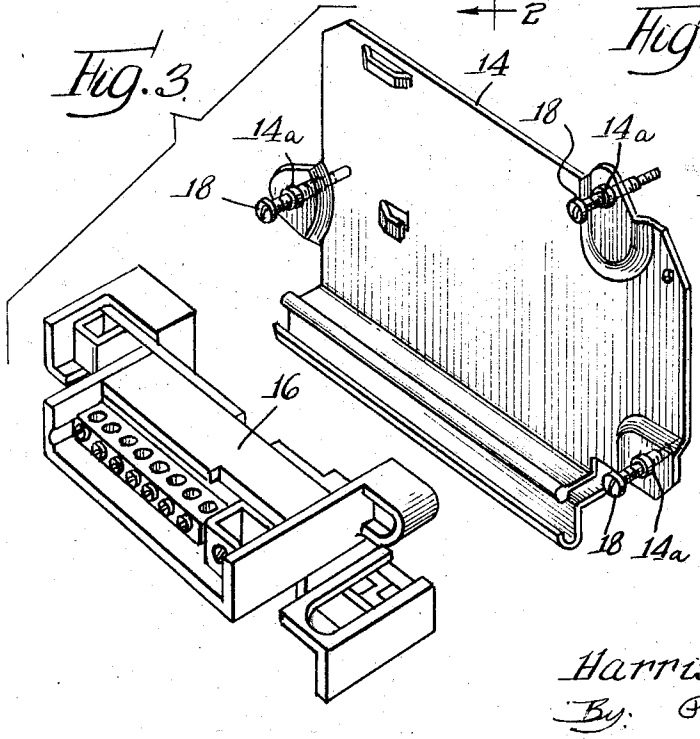


Fig. 4.

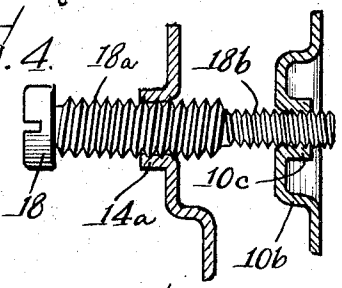
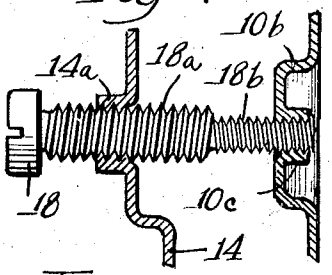


Fig. 5.



Inventor

Harris I. Stanback

By: Paul J. Rose Atty

United States Patent Office 3,312,873
Patented Apr. 4, 1967

3,312,873

ADJUSTABLE MOUNTING MEANS

Harris I. Stanback, Lexington, Ky., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Oct. 11, 1965, Ser. No. 494,849
5 Claims. (Cl. 317—119)

This invention relates to an adjustable mounting means for the mounting pan of an electrical panelboard or load center.

An object of the invention is to provide means for mounting a first member such as a mounting pan of an electrical panelboard in adjustably spaced relationship to a second separate member such as a rear wall portion of a box of an electrical panelboard, the mounting means comprising a plurality of screws threaded into both of said members.

In the drawings, FIG. 1 shows a front view of an electrical panelboard or load center constructed in accordance with the invention;

FIG. 2 is a sectional view taken generally along the line 2—2 of FIG. 1;

FIG. 3 is an exploded perspective view of the mounting pan and screw assembly and the insulating base, bus bar, and neutral wire connector assembly of the electrical panelboard of FIG. 1;

FIG. 4 is an enlarged fragmentary sectional view of the mounting pan and the rear wall of the box of the electrical panelboard of FIG. 1, showing one of the adjusting screws; and

FIG. 5 is a view similar to FIG. 4, but showing a different adjusted position of the screw and mounting pan with respect to the rear wall of the box.

FIGS. 1 and 2 disclose an electrical panelboard including a box **10** and a cover and door assembly **12** secured thereto by a plurality of screws **13**. The box **10** contains a mounting pan **14** and an insulating base, bus bar, and neutral wire connector assembly **16** shown best in FIG. 3. The pan **14** and assembly **16** may be of any suitable type and for purposes of illustration are of the type disclosed in copending application, Ser. No. 494,854, filed on Oct. 11, 1965, and assigned to the assignee of the present invention, to which reference may be had for a fuller description.

In accordance with the present invention, three screws **18** are provided for adjustably mounting the mounting pan **14** with respect to a rear wall portion **10***a* of the box **10**, one of the screws **18** being shown in detail in FIGS. 4 and 5. The shank portion of each screw includes a relatively large diameter portion **18***a* adjacent the head of the screw and a relatively small diameter portion **18***b* opposite the head end of the screw, the portions **18***a* and **18***b* being oppositely threaded. Preferably, the portion **18***a* is provided with left-hand threads and the portion **18***b* is provided with right-hand threads.

The cover and door assembly **12** is of the type known as "flush mounting" and is adapted to bear against interior walls of various thicknesses, the adjustment being taken up by the screws **13**. The adjustment provided by the screws **18** enables circuit controlling devices such as a plurality of molded-case circuit breakers **20** mounted on the mounting pan **14** and base and bus bar assembly **16** to be fitted snugly against an interior trim panel portion

12*a* of the assembly **12** for various positions of the assembly **12** with respect to the box **10**.

Preferably the rear wall portion **10***a* of the box **10** is provided with three small interior dome portions **10***b* each of which is provided with a central extruded portion **10***c* defining a threaded aperture which receives the portion **18***b* of a respective one of the screws **18**. The mounting pan **14** is provided with corresponding extruded portions **14***a* defining threaded apertures which receive the portions **18***a* of the respective screws **18**. Each of the screws **18** may be adjusted separately to a considerable extent before binding occurs, at which time the other two screws **18** would be adjusted in turn to return the mounting pan **14** to a position in which it is substantially parallel to the interior trim panel portion **12***a*.

Assuming that the parts are in the relative positions shown in FIG. 4, the respective screw **18** may be turned counterclockwise, as viewed from the head end, to place the parts in the relative positions shown in FIG. 5. Because the portion **18***b* is provided with right-hand threads, such counterclockwise rotation moves it out of the respective dome portion **10***b*, and because the portion **18***a* is provided with left-hand threads, counterclockwise rotation will move the mounting pan **14** toward the head of the screw **18**. The total adjustment of the mounting pan **14** with respect to the rear wall portion **10***a* of the box **10** will then be the amount the screw portion **18***b* moves out of the dome portion **10***b* plus the amount the mounting pan **14** moves outwardly along the screw portion **18***a*. This results in a comparatively rapid adjustment.

When the final adjusted position of the mounting pan **14** is to be relatively close to the rear wall portion **10***a* of the box **10**, assembly may be made by first placing the mounting pan **14** against the rear wall portion **10***a* with the threaded apertures aligned, inserting the portions **18***b* of the screws **18** through the respective extruded portions **14***a* of the mounting pan **14** and turning the screws clockwise to thread the portions **18***b* as far as they will go into the respective extruded portions **10***c* of the rear wall portion **10***a* of the box **10**, and then turning the screws counterclockwise a desired amount to thread the portions **18***a* into the respective extruded portions **14***a* and adjustably move the mounting pan **14** away from the rear wall portion **10***a*.

When the final adjusted position of the mounting pan **14** is to be relatively far from the rear wall portion **10***a* of the box **10**, assembly may be made by first inserting the portions **18***a* of the screws **18** into the respective extruded portions **14***a* of the mounting pan **14** and turning the screws counterclockwise to thread the portions **18***a* as far as they will go into the respective extruded portions **14***a*, and then inserting the portions **18***b* of the screws **18** into the respective extruded portions **10***c* of the rear wall portion **10***a* of the box **10** and turning the screws clockwise a desired amount to thread the portions **18***b* into the respective extruded portions **10***c* and adjustably move the mounting pan **14** toward the rear wall portion **10***a*.

I claim:

1. An assembly comprising a first member, a second member, and means for adjustably mounting said first member in spaced relationship to said second member, said mounting means comprising means on said second member defining a plurality of spaced internally threaded

apertures of relatively small diameter, means on said first member defining a plurality of correspondingly spaced internally threaded apertures of relatively large diameter, and a plurality of screws each having a portion of relatively small diameter threaded into one of said apertures of said second member and a portion of relatively large diameter threaded into a corresponding one of said apertures of said first member.

2. An assembly as claimed in claim 1, wherein said small diameter and said large diameter portions of each of said screws are oppositely threaded.

3. An assembly as claimed in claim 1, wherein said apertures of said second member and the small diameter portions of said screws are provided with right-hand threads and said apertures of said first member and the large diameter portions of said screws are provided with left-hand threads.

4. An assembly as claimed in claim 1, wherein said plurality of screws consists of three screws.

5. An assembly as claimed in claim 1, wherein said first member is a mounting pan of an electrical panelboard and said second member is a rear wall portion of a box of an electrical panelboard.

References Cited by the Examiner

UNITED STATES PATENTS

2,036,044	3/1936	Hammer	317—119
2,282,520	5/1942	Jackson	317—119
2,287,684	6/1942	Jackson et al.	174—57
2,599,695	6/1952	Christensen	317—119
3,202,881	8/1965	Carlyle	317—120

ROBERT K. SCHAEFER, *Primary Examiner.*

H. O. JONES, *Assistant Examiner.*