

July 9, 1935.

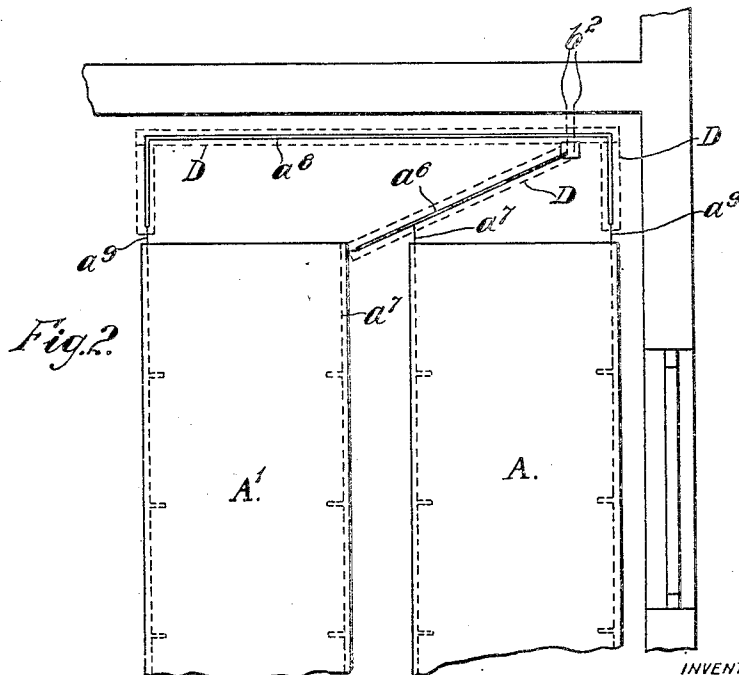
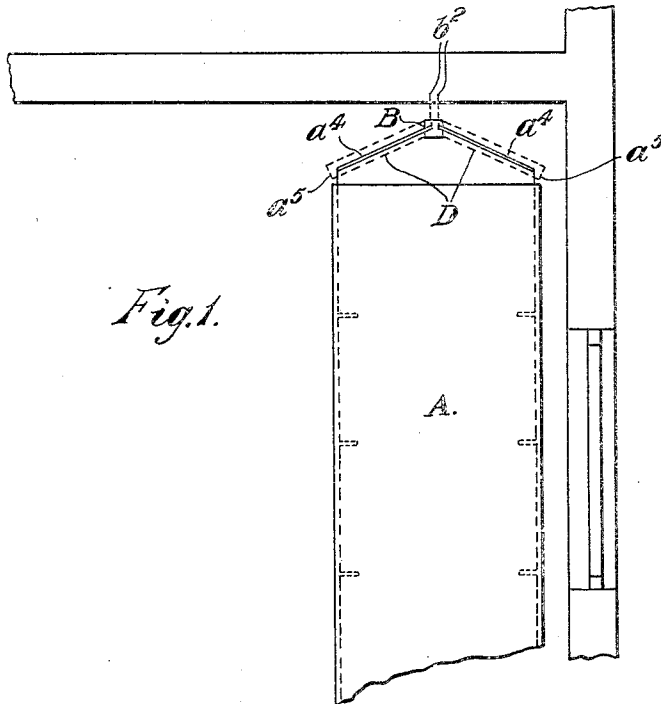
J. L. MUSGRAVE ET AL

2,007,610

INSTALLATION OF ELECTRICAL CONDUCTORS

Filed Sept. 21, 1934

2 Sheets-Sheet 1



INVENTORS
J. L. MUSGRAVE AND
S. C. MOUNT
Eugene F. Stevens
ATTY.

July 9, 1935.

J. L. MUSGRAVE ET AL

2,007,610

INSTALLATION OF ELECTRICAL CONDUCTORS

Filed Sept. 21, 1934

2 Sheets-Sheet 2

Fig. 3.

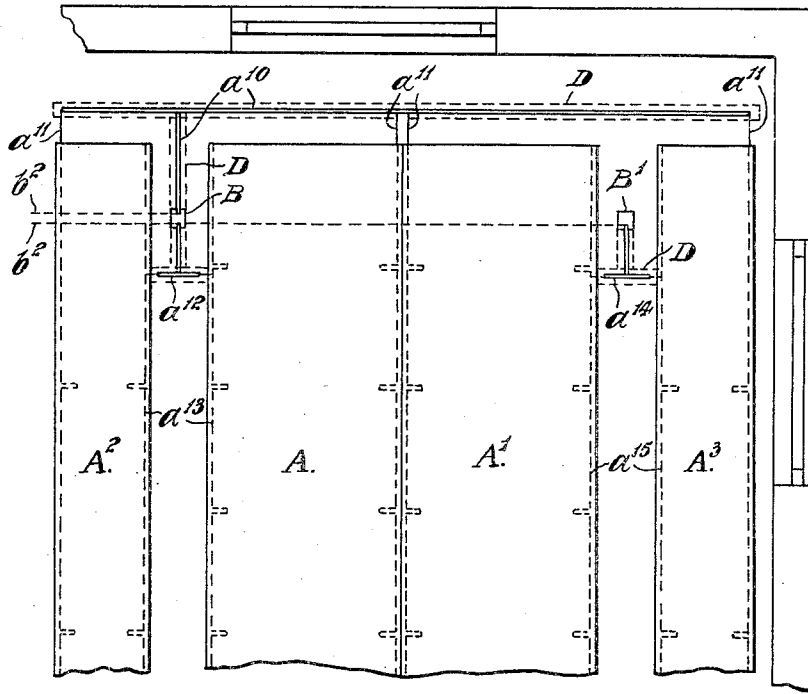
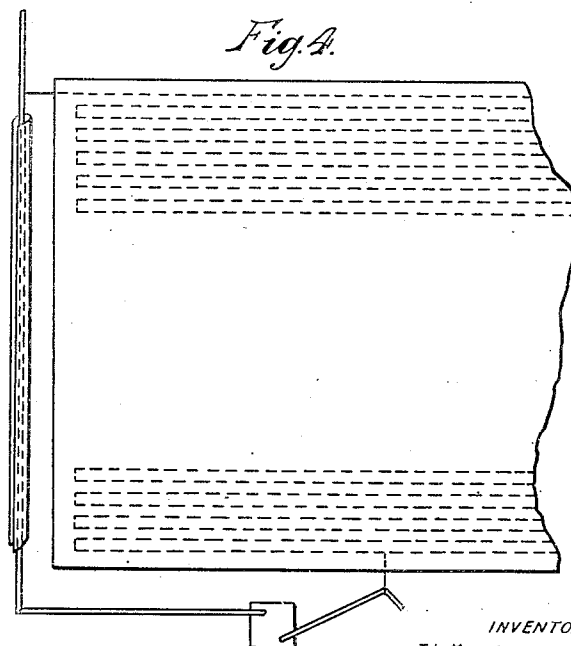


Fig. 4.



INVENTORS
J. L. MUSGRAVE AND
S. C. MOUNT

Eugene E. Stevens
ATTY.

UNITED STATES PATENT OFFICE

2,007,610

INSTALLATION OF ELECTRICAL CONDUCTORS

Joseph Leslie Musgrave and Sidney Clark Mount,
London, EnglandApplication September 21, 1934, Serial No. 744,976
In Great Britain September 13, 1933

3 Claims. (Cl. 219—34)

This invention relates to surface wiring for use in connection with electrical installations, and refers in particular to the method of connecting up and fixing or securing conductors to the surface of a ceiling or wall, being specially applicable for use in the electrical heating of rooms or buildings, although it can be readily adapted for use with electrical lighting of rooms or buildings. The object of the invention is to devise a system of wiring whereby current can be distributed from one or more supply points, for example on a ceiling, to feed one or more points where it is required for use, by conductors so secured to the surface of the ceiling as to render them practically invisible by not interfering with the evenness of said surface, while still retaining easy accessibility thereto, and to the feed wiring.

According to this invention the main insulated wiring from the source of supply is brought preferably to a flush type connecting box in the ceiling at a point convenient to the source of supply and reasonably adjacent to the points of use.

The surface wiring, from this connecting box to the points of use, preferably consists of a conductor of ribbon section, e. g. tinned copper ribbon suitably insulated where it enters the connecting box.

The tinned ribbon conductors may be supported on the surface of the ceiling by say, a two-inch strip of gummed paper, or by direct adhesive, and may be then further supported by the usual finishing papers or other materials with which the whole ceiling is covered.

In order that the invention may be clearly understood we have appended the accompanying drawings.

Fig. 1 is a broken plan view showing the wiring of a ceiling, in accordance with this invention, for a single heating panel.

Fig. 2 is a similar view showing the wiring to feed two panels.

Fig. 3 is a broken plan view showing the wiring of a ceiling where it is desired to connect up four panels.

Fig. 4 is a broken plan view of a portion of a heating panel, on an enlarged scale, showing how the tinned copper ribbon conductors may be insulated with paper or like material.

Referring to Fig. 1 where we have shown the wiring of the surface of a ceiling using a single panel A, the flush type connecting box B, to which the main insulating wiring b^2 is brought from the source of supply, is situated adjacent to the points of use, the tinned ribbon conductors a^4 being fed along the ceiling and attached to the bus-bars a^5

on either side of said panel A by the use of a soldering iron.

At Fig. 2 we have shown the wiring of the surface of a ceiling to feed two panels A, A^1 . In this case the tinned ribbon conductor a^6 is fed along the ceiling from the one pole of the connecting box B direct to the busbar a^7 of each panel, the tinned ribbon conductor a^8 from the other pole of the connecting box B being carried along the ceiling and connected up to the busbars a^9 on the other side of the panels.

When it is desired to connect up, say for example four panels, two central ones A, A^1 , butting together, and one either side respectively, A^2 , A^3 with a space between the adjacent panels A, A^2 and A^1 , A^3 , as shown by Fig. 3, we employ two connecting boxes B, B^1 , positioned in the space between the side panels and the centre panels, the main insulated wiring b^2 being connected to the one pole in the box B^1 , and to both poles in the box B. The tinned ribbon conductor a^{10} , after being connected to the connecting box B, is then carried across the ceiling and connected to the respective polarity busbars a^{11} of each panel in the manner previously described. The second tinned ribbon a^{12} from the connecting box B is then likewise connected to the busbars a^{13} of the panels A, A^2 , and the tinned ribbon a^{14} from the connecting box B^1 is connected to the busbars a^{15} of the panels A^1 , A^3 .

In all cases the tinned copper ribbon conductors are supported on the surface of the ceiling by, say, a two-inch strip of gummed paper D, shown in dotted lines, or other similar suitable material, or by direct adhesive, being then further supported by the usual finishing materials with which the panels and the whole ceiling are covered.

At Fig. 4 we have shown a portion of a panel, on an enlarged scale, demonstrating how the tinned ribbon conductors may be additionally insulated with a wrapping of paper or other material which will not prevent the general concealment of the ribbons when the final decoration is added.

What we claim as our invention and desire to secure by Letters Patent is:—

1. In a mural heating system, a flat panel electrical heater disposed on a plane mural surface, an outlet box in said surface and flush therewith, a ribbon conductor flatly contacting said surface between said box and heater, and a flat body of non-conducting material overlying said conductor.

2. In a mural heating system, the combination of a flat panel electrical heater disposed on a plane mural surface, an outlet box in said surface

and flush therewith, a ribbon conductor flatly contacting said surface between said box and heater, and means adhesively securing said ribbon conductor in flat surface contact against said mural surface.

3. In a mural heating system, the combination of a flat panel electrical heater disposed on a plane mural surface, an outlet box in said surface

and flush therewith, a ribbon conductor flatly contacting said surface between said box and heater, and a strip of gummed paper applied to said surface over said ribbon for holding said ribbon in flat engagement therewith.

JOSEPH LESLIE MUSGRAVE.
SIDNEY CLARK MOUNT.