A. T. HUNT.

SWITCH CABINET.

APPLICATION FILED JAN. 5, 1918. RENEWED NOV. 3, 1919.

1,332,555. Patented Mar. 2, 1920.

2 SHEETS—SHEET 1.

Fig. 1.

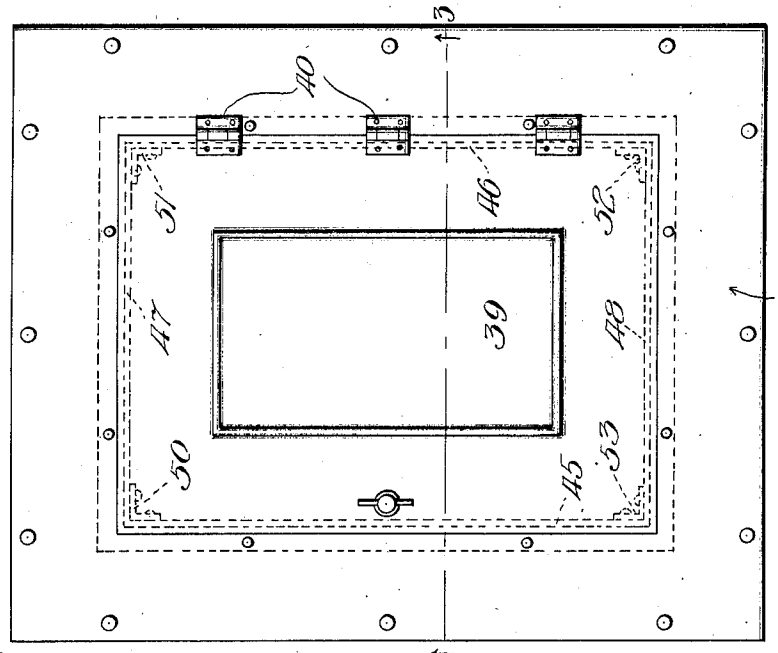
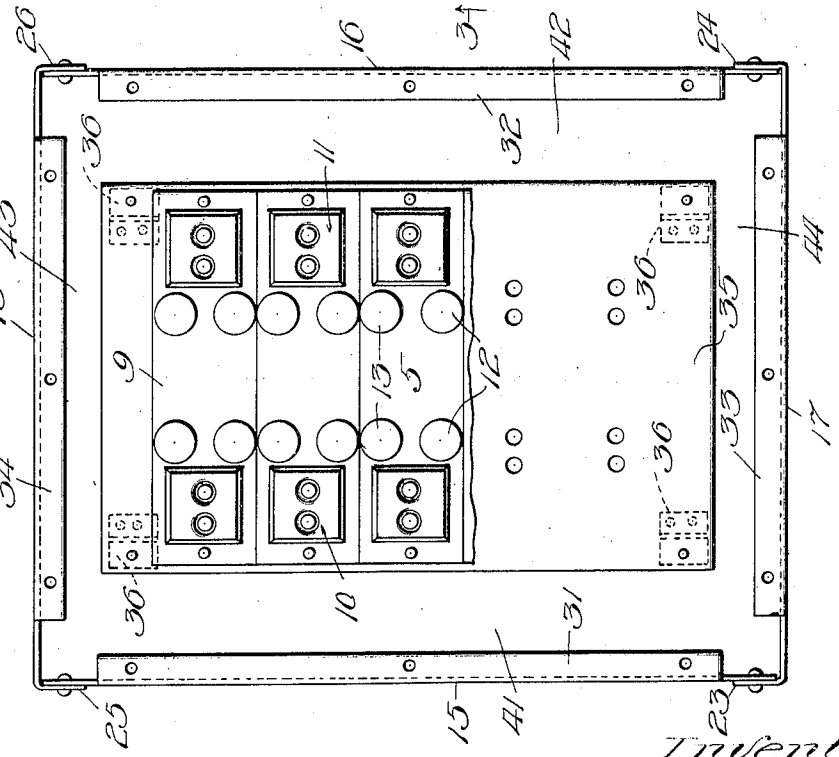


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

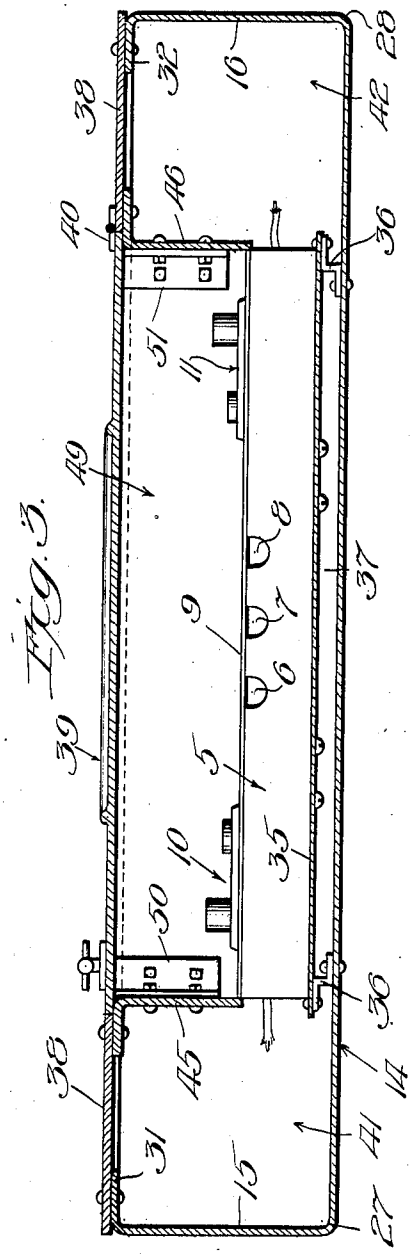
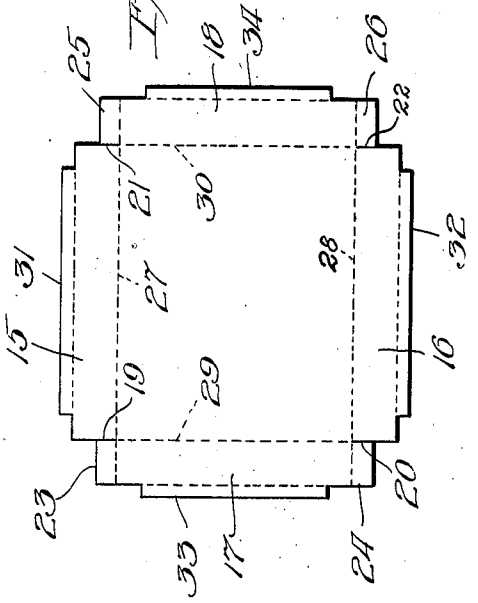


Fig. 4.



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UNITED STATES PATENT OFFICE.

ARTHUR T. HUNT, OF CHICAGO, ILLINOIS.

SWITCH-CABINET.

1,332,555. Specification of Letters Patent. Patented Mar. 2, 1920.

Application filed January 5, 1918, Serial No. 210,172. Renewed November 3, 1919. Serial No. 335,475.

To all whom it may concern:

Be it known that I, ARTHUR T. HUNT, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Switch-Cabinets, of which the following is a specification.

The present invention has to do with improvements in switch cabinets and the like, such as are used for the accommodation of distributing switches in local applications and the like. Such cabinets are used, for example, in factories and industrial plants at different points for controlling the distribution of current to the different lighting or similar circuits. When so used, the main supply of current is brought into the cabinet, the different local or distribution circuits leading from the cabinet to the various points of local application of current. Within the cabinet are located the necessary switches and fuses for controlling and protecting the different circuits.

The foregoing is mentioned as a simple application of use of these switch cabinets. Manifestly, the cabinets may also be used in many other locations and for many other classes of service than that above mentioned.

In order for a structure of this kind to find favor in the art, it should first of all be of a strictly fire-proof construction and of such arrangement that any difficulties in the way of short circuits and the like will be localized in the cabinet itself. In the next place, the cabinet should preferably be of a standard construction and built up from a minimum number of parts, so that its cost may be reduced to as low a figure as possible, and so that different cabinets for different locations may be put together with the use of a minimum number of special parts.

There are on the market at the present time certain standard constructions of switch block or unit, including the sockets for fuse plugs to protect the local distribution circuits. One of the objects of the present invention is to so form and construct the cabinet and its constituent parts that these standard switch and fuse blocks can be incorporated into the completed structure, the new elements being combined with the switch and fuse blocks in such a way as to provide a complete finished structure of the desired form and characteristics.

Another object is to so construct the cabinet that it shall have a pleasing and finished appearance which may be readily made to harmonize with the finish of the surrounding or adjacent structures.

Other objects and uses of the invention will appear from a detailed description of the same which consists in the features of construction and combinations of parts hereinafter described and claimed.

Referring to the drawings:

Figure 1 shows a front or face view of the completed cabinet, the door being closed;

Fig. 2 shows an interior view of the assembled cabinet, the trim plate and door, as well as the baffles being removed to expose the switch and fuse block units, and certain of said units being cut away to show the base plate;

Fig. 3 shows a section taken on the line 3—3 of Fig. 1, looking in the direction of the arrows, Fig. 3 being on enlarged scale; and

Fig. 4 shows a face view of the blank from which the major portion of the cabinet is formed.

Referring to the several figures, I will first state that I have shown the features of the present invention as being used in connection with a series of switch and fuse blocks 5 of standard and well-known construction. Each of these blocks is provided with the central transverse slots 6, 7, and 8, through which the main leads are extended in the form of three bus-bars, the notches or grooves 6, 7, and 8 of the various units lining up when the units are placed side by side in the manner shown in Fig. 2.

A cover or finish plate 9 is secured over the top of each of the units 5. In the end portions of each of these units are the switch blocks 10 and 11, which ordinarily draw current from the two circuits of the three-wire system. The sockets 12 and 13 are provided for each of these local circuits, said sockets receiving fuse plugs of familiar and ordinary construction.

Inasmuch as these units may be of any desired design and construction, I will not herein further concern myself particularly with their details.

The body portion of the cabinet comprises a box-like structure 14 which is formed from a sheet or blank of sheet steel, or other metal. The form of this blank is shown in Fig. 4. It is provided with a pair of side ears 15 and 16 and with a pair of

end ears 17 and 18. The end ears are cut in at the points 19, 20, 21, and 22 to provide the lips 23, 24, 25, and 26. The side ears are folded up along the lines 27 and 28 to provide the side walls of the structure, as shown in Figs. 2 and 3, and the end ears are folded up along the lines 29 and 30 to provide the end walls of the structure, as also shown in said figures.

The ears 15, 16, 17, and 18 are provided with lugs 31, 32, 33, and 34 respectively, which may be folded over along the dotted lines to provide lugs shown in Figs. 2 and 3, to which the trim plate is ultimately secured.

Upon folding the ears 15 and 16 into right angles with respect to the bottom of the cabinet, the ears 17 and 18 may be folded up to provide the end walls, and then the lugs 23, 24, 25, and 26 may be folded over and riveted to the ears 15 and 16 respectively, as shown in Fig. 2.

The base plate 35 is secured to the bottom of the cabinet by the use of the Z-brackets 36 in its corner portions. These brackets space the base plate a slight distance from the bottom of the cabinet to provide the space 37, so that the switch blocks will be properly ventilated, and so that the parts may be more readily assembled. Ordinarily the switch blocks may be secured to the base plate 35 before said base plate is secured into the body of the cabinet.

The cabinet of the present invention can be mounted either on the exposed face of the wall or other supporting structure, or it can be set into the wall, so that its outer face is flush therewith. In either case a trim plate and door should be provided for closing the front side of the cabinet. For this purpose I have provided the trim plate 38 whose contour is substantially the same as that of the cabinet, said trim plate being secured by rivets or bolts to the lugs 31, 32, 33, and 34, as shown in Figs. 1 and 3.

The central portion of the trim plate is cut away to provide a door opening of slightly greater size than the overall dimensions of the structure provided by the switch units 5. A door 39 is then hinged to one side of the trim plate by the hinges 40, so that when the door is closed, as shown in Figs. 1 and 3, it presents a smooth continuous surface with reference to the trim plates.

Examination of Figs. 2 and 3 shows that the overall dimensions of the cabinet 14 are substantially greater than the space occupied by the switch units 5. There are thus provided the troughs 41 and 42 at the sides of the switch structure and 43 and 44 at the upper and lower ends of the switch structure respectively. These troughs are for the accommodation of the wires or cables which are connected into the various switch units. Perforations may be provided in the walls of the cabinets at suitable points for the accommodation of the necessary conduits or wiring and I do not illustrate these perforations simply for the reason that they will naturally be located at the desired points corresponding to the particular installation in question.

Reference to Figs. 1 and 3 in particular shows the presence of the baffle plates 45, 46, 47, and 48 depending from the inner surface of the trim plate 38. These baffles extend into the cabinet just a sufficient distance to slightly overlie the side and end portions of the switch structure, as shown in Fig. 3. They are also spaced the exact distance from each other to seat nicely against the side and end portions of the switch structure, so that when the trim plate is set into place the space 49 giving access to the switches and fuse blocks is set off from the aforementioned troughs, so that the wiring will not be in any manner exposed unless the trim plate itself is removed. It is also to be observed that these baffle plates are carried by the trim plate, and, consequently do not need to overlie the end portions of the switch units. Consequently, the wires from the troughs pass directly into the ends of the switch units without any necessity of cutting or drilling the baffles at any point. Furthermore there is a substantial saving in the amount of metal necessary to construct the baffles since they need to depend only a sufficient distance to set off the space 49 from the troughs.

I will also point out that the baffles are conveniently built up from angle bars or plates, the short lugs whereof slightly overlie the door openings. Consequently, these overlying portions provide a rabbet against which the door 39 will seat when closed. Therefore, these angle bars may perform the two functions of providing the baffles and also providing the rabbets. The angle bars 50, 51, 52, and 53 are provided for joining together the adjacent end portions of the baffle plates. These angle bars are conveniently attached to the baffle plates by the use of bolts, which bolts may be loosened up at the time the trim plate and baffles are set into place, so as to permit a slight amount of play in the lower edges of the baffles, so that they can be sprung into place over the side and end portions of the switch structure. Thereafter, the bolts may be tightened up so as to draw the baffles securely into their final positions.

I claim:

In a switch cabinet, the combination of a sheet metal box-like structure comprising a floor and up-turned walls, a base plate secured to the central portion of said floor but spaced therefrom for the purpose specified, a plurality of circuit controlling units secured to said base plate and mounted in

close proximity to each other, and comprising a solid structure on the base plate, said circuit controlling units having coöperating slots for the provision of bus-bar passages extending transversely of the circuit controlling units, a rectangular trim plate secured to the edge portions of the aforesaid walls, there being a door opening in the trim plate of contour similar to and slightly larger than the contour of the perimeter of the circuit controlling unit structure, angle bars secured to and inwardly projecting from the trim plate, said angle bars slightly overlying the door opening in the trim plate for the provision of a rabbet for a door hinged to the trim plate and working in the opening thereof, and the angle bars slightly overlapping the perimeter of the circuit controlling unit structure, whereby said angle bars serve to provide troughs for the accommodation of wires in the side portions of the cabinet separated from the space uncovered by the opening of the door, substantially as described.

ARTHUR T. HUNT.