My invention relates to a housing construction for the branch overload protective devices which are associated with the service boxes.

In certain electric installations it is desirable that the service boxes shall be closed and sealed so as not to be accessible to the tenant; but that the fuse receptacles for the branch circuits shall be housed in such a manner that they will be accessible to the tenant.

One of the objects of my invention is to provide a housing construction for branch fuse receptacles or other overload protective devices which will fulfill the above indicated requirements.

A further object of my invention is to provide such a housing construction which will fit in well with present day service box construction.

A further object of my invention is to provide such a construction in which the trough which connects the service boxes in certain types of installation forms a part of the housing for the fuse block.

Further objects will appear from the description and claims.

In the drawings in which an embodiment of my invention is shown—

Figure 1 is a view showing parts of two service boxes with the connecting trough and the fuse block in place in the trough;

Fig. 2 is a section on the line 2—2 of Fig. 1, but showing the covers in position;

Fig. 3 is a section on the line 3—3 of Fig. 1, but showing the covers in position;

Fig. 4 is a section on the line 4—4 of Fig. 1;

Fig. 5 is a perspective view of a cover for the trough;

Fig. 6 is a view showing a longer trough with two fuse blocks mounted thereon;

Fig. 7 is a front view of another form of my invention;

Fig. 8 is a section on the line 8—8 of Fig. 7, but showing the covers in position;

Fig. 9 is a section on the line 9—9 of Fig. 7, but showing the covers in position, and

Fig. 10 is a wiring diagram showing the circuit arrangement.

Referring now to the construction in detail, Fig. 1 shows an installation in which two two-wire branch circuits are derived from a three-wire line circuit.

The fuse block 10 is mounted in the trough 11 above the line wires extending between the service boxes 11a and 11b. A positive line wire 11c from the meter in the left-hand service box is connected at 12, with the center contact member 13 of the left-hand fuse receptacle, and a positive branch wire 14 is connected at 15 with the shell contact 16 of the left-hand fuse receptacle and leads to the branch conduit 17, which extends upwardly from the trough 11. A neutral wire 18 is tapped off from the neutral line wire, and connected at 19 to the neutral binding plate 20 from which a neutral branch wire 21 leads to the conduit 17 to complete the circuit for the positive branch wire previously referred to.

A negative line wire 22 from the right-hand service box is connected at 23 with the center contact member 24 of the right-hand fuse receptacle. A negative branch wire 25 is connected at 26 with the shell contact 27 of the right-hand fuse receptacle and leads to the branch conduit 17.

A neutral branch wire 28 is connected at 29 with the neutral binding plate 20 and leads to the branch conduit to complete the circuit for the negative branch wire referred to.

There are thus derived two branch circuits with fuses for the potential branches but with no fuses for the neutral branches.

Referring now somewhat more in detail to the specific construction of the fuse block, this comprises an insulating base 30, on which the fuse receptacle contacts and neutral wiring terminals are mounted and an insulating cover 31 having openings for the fuse receptacles and having a portion 32 serving as a cover for the wiring terminals on the fuse block and for the wires adjacent the fuse block. The insulating base 30 is mounted on a sheet metal support 33, having lugs 34 which slip into slots in the trough 11, and having a lip 35 to receive the securing screw 36 which holds the support in place in the trough.
The sheet metal cover 37, shown in Fig. 5, has upper and lower flanges 38 and 39, which fit over the edges of the trough and has side flanges 40 and 41, which fit inside the edges of the covers 42 and 43 of the service boxes, so that when the service boxes are closed and sealed, the cover 37, for the trough is securely held in place. This cover 37 has an enlarged oval opening 43, allowing free access of the fuse block when the hinged cover 43 for the trough is opened.

The construction shown in Fig. 6 is substantially the same as that just described, except that here the trough 44 is long enough to accommodate two of the fuse blocks and is provided with two branch conduits 45 and 46 so that a greater number of branch circuits may be derived, or so that a greater number of the branch wires may be provided with fuses.

The construction shown in Figs. 7, 8, and 9 is similar to the constructions previously described, except that here the overload protective devices are mounted in two rows, one above the other, so that the casing between the two service boxes 47 and 48 is considerably higher than in the form previously described. As in the previous forms, the casing 49 is provided with a gutter portion 50, for the line wires leading from one service box to the other, and is provided with a sheet metal cover 51, to be opened by the tenant to permit access to the fuse receptacles 51a. A common binding plate 52 is provided for the neutral branch wires. The binding screw 53 for the neutral binding plate is connected with the neutral line wire 54. A positive line wire (not shown) from the left-hand service box may be connected with the binding screw 55, common to the center contacts of the two left-hand fuse receptacles, and a negative line wire (not shown) from the right-hand service box may be connected with the binding screw 56, common to the center contacts of the right-hand fuse receptacles.

Potential branch wires are connected with the binding screws 57, 58, 59 and 60 for the shelf contacts of the fuse receptacles and neutral branch wires are connected with the binding screws 61, 62, 63, and 64 of the neutral binding plate. The casing is provided with branch conduits 65 and 66 leading therefrom for the branching wires.

In this form, there are thus derived four branch circuits with fuses for the potential branches but with no fuses for the neutral branches.

Reference is hereby made to my application, Serial No. 678,064, filed November 9, 1923, for which this application is a substitute.

I claim:
1. The combination with a pair of sealed service boxes, and a trough providing a passage for the line wires between said boxes, of overload protective devices in said trough, and an unsealed cover for said trough permitting access to the overload protective devices when open.
2. The combination with a pair of sealed service boxes, and a trough providing a passage for line wires between said boxes, of overload protective devices for branch wires in said trough, and an unsealed cover for said trough permitting access to the overload protective devices when open, said trough having an opening for the branch wires leading therefrom.
3. The combination with a pair of sealed service boxes and a casing between said boxes, comprising a trough provided with a passage for line wires between said boxes, of overload protective devices for branch wires in said casing, and an unsealed cover for said casing permitting access to the overload protective devices when open, said casing having an opening for branch wires leading therefrom, said overload protective devices being provided with an insulating base lying in front of said line wires.

In witness whereof, I have hereunto subscribed my name.

REUBEN B. BENJAMIN.