

Feb. 20, 1934.

G. W. RODORMER

1,948,078

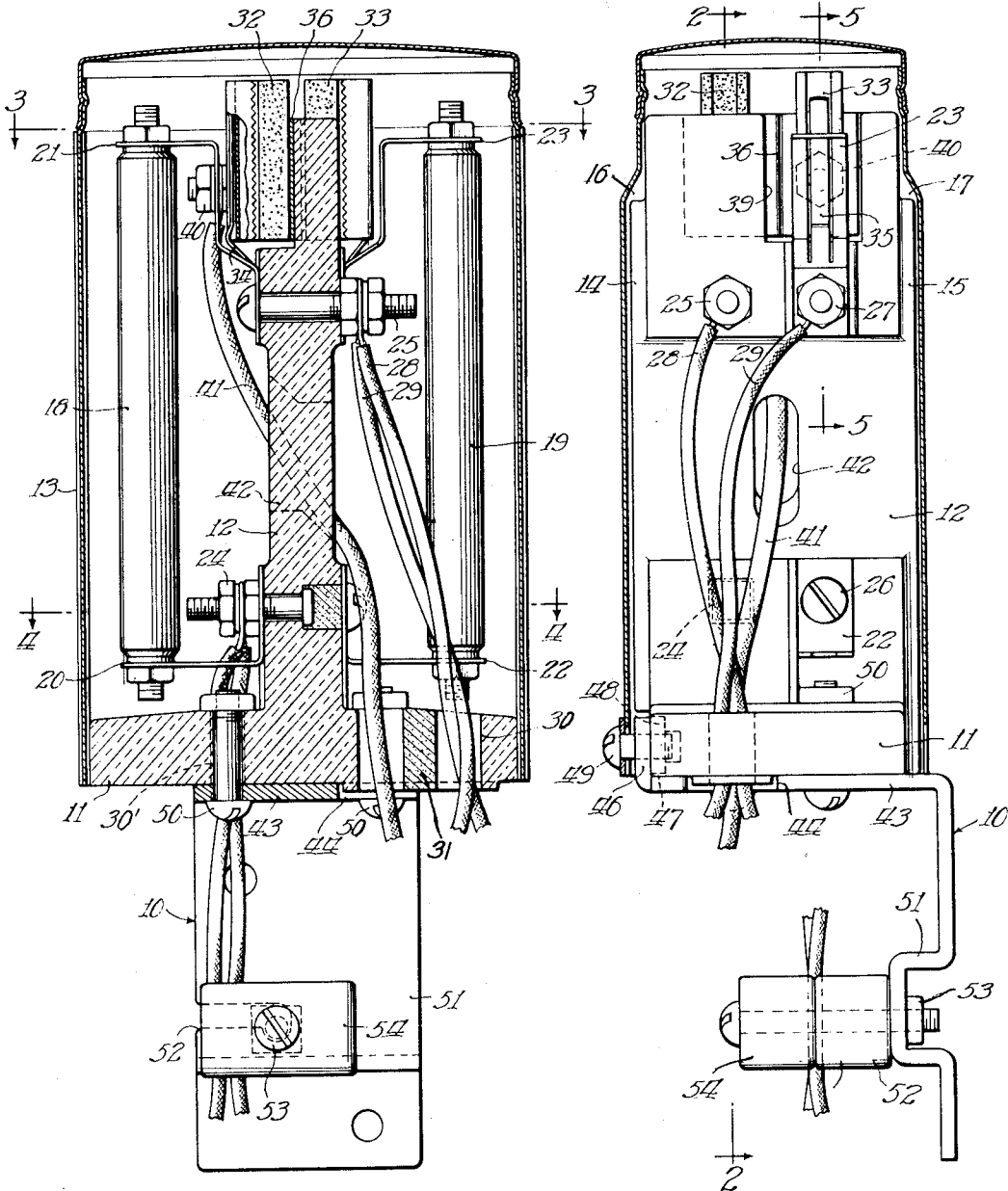
TELEPHONE STATION OUTDOOR PROTECTOR

Filed Sept. 5, 1931

2 Sheets-Sheet 1

Fig. 2

Fig. 1



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Fig. 3

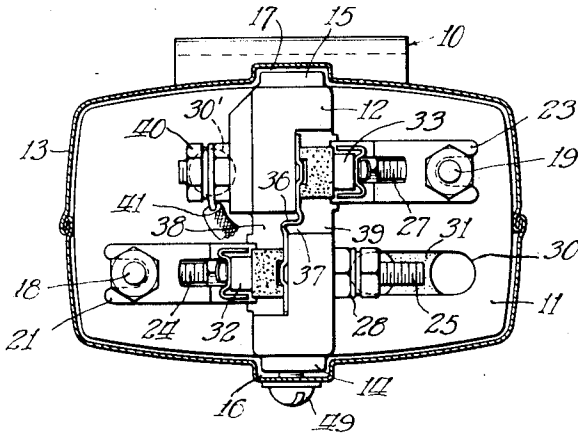


Fig. 4

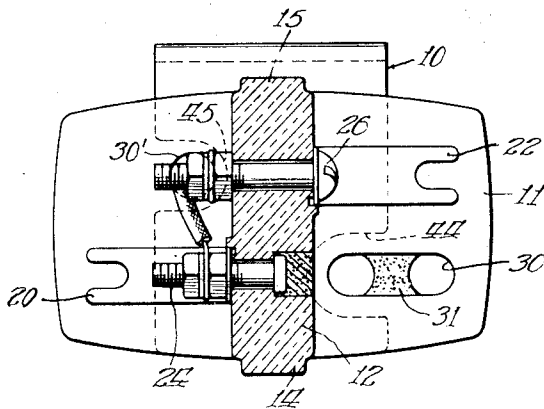


Fig. 5

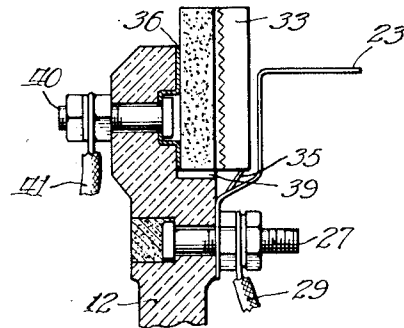
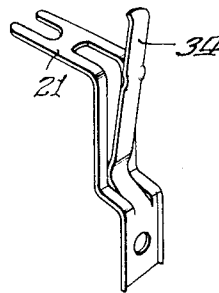


Fig. 6



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UNITED STATES PATENT OFFICE

1,948,078

TELEPHONE STATION OUTDOOR
PROTECTORGeorge W. Rodormer, Park Ridge, Ill., assignor to
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Application September 5, 1931. Serial No. 561,346

11 Claims. (Cl. 200—115)

This invention relates to telephone station outdoor protectors.

It is the usual practice to install the station protector in the basement of the building where the telephone is located. In many cases, however, there is either no basement in which to install the protector, or for some other reason it is desirable to place it on the outside.

It is the purpose of this invention to provide a simple, compact outside protector which provides plenty of space and freedom for simple and direct installation of the wiring and the necessary protective equipment.

It is the practice to mount outdoor protectors so that they may be reached from the ground. If trouble occurs on the line, a repairman makes tests at the protector, and, if a power line has contacted with a telephone line and blown one or both of the fuses of the protector, in some instances the power might still be on the telephone drop wire. The line clips of the protector would be alive. It is an important feature of this invention that the cover for the protector is so mounted that it cannot be tilted into contact with the line clips or other live part of the protector.

It is also a purpose of this invention to provide a simple base and staff portion of insulating material upon which all of the parts of the protector may be mounted and the fuse mountings placed in staggered position on each side of the staff so as to be fully isolated from each other to facilitate wiring.

It is also a purpose of this invention to so arrange the parts upon the base and staff that they are all clear of the wiring and of each other with sufficient margin to insure safety and minimize the chance of current leakage even under extreme moisture conditions in service.

It is a further purpose of the invention to provide an attachment by means of which the protector may be readily mounted upon a wall, which attachment has also means for mounting an insulator such as a split knob or similar device for properly routing the drop wire and taking up the slack therein.

The other and more detailed objects of the invention will appear as the description proceeds in connection with the accompanying drawings wherein the preferred form of the invention is shown.

In the drawings—

Fig. 1 is a side view with the cover shown in section;

Fig. 2 is a section substantially on the line 2—2 of Fig. 1;

Fig. 3 is a section on the line 3—3 of Fig. 2;

Fig. 4 is a section on the line 4—4 of Fig. 2;

Fig. 5 is a fragmentary section on the line 5—5 of Fig. 1; and

Fig. 6 is a detailed view of the combined mounting clip and protector carbon spring.

Referring now in detail to the drawings, the main parts of the protector consist of the attaching bracket 10, the insulating base 11, the staff 12, and the cover 13. The staff 12 extends transversely across the base 11 substantially midway between the ends thereof and is provided at its opposite sides with the ridges 14 and 15 which co-operate with corresponding grooves at 16 and 17 on the cover to guide the cover when it is to be placed on or removed from the protector and prevent its tipping so as to come in contact with any of the electrical devices mounted on the staff.

The fuses 18 and 19 are as shown mounted on suitable mountings such as the clips 20, 21, 22, and 23, which clips are secured in place by the wiring terminal bolts 24, 25, 26, and 27. It is to be noted that the heads of bolts 24 and 27 are countersunk into the staff 12 and a suitable insulation material placed over them so that contact cannot be made therewith on the side opposite the clips they retain. This mounting for the terminals and the fuse clips staggers the fuses on opposite sides of the staff so that they are fully separated from each other and do not intrude upon the wiring space. The line wires come up through a suitable opening in the base and connect to the terminals 24 and 26. The other terminals 25 and 27 may connect to the instrument wires as at 28 and 29 on the opposite side of the staff from the connection of the line wires and these instrument wires pass out through the opening 30 in the base. This opening as shown is preferably somewhat larger than is necessary for two instrument wires and a ground wire but has a filling indicated at 31 of some readily removable material, such as a wax compound, which may be removed to increase the capacity of the opening in case more than two instrument wires are to be connected to the protector. In this way the danger of moisture getting up into the protector through the opening 30 is minimized.

The air gap protectors against static discharges are placed at the top of the staff 12 and are indicated at 32 and 33. It is to be

noted that these protectors are also staggered with respect to each other so as to align with the mounting clips for the fuses and so that the spring supporting elements 34 and 35 may also be held by the terminals 25 and 27. The upper mounting clips have the springs 34 and 35 struck out therefrom. (See Fig. 6.) This simplifies the mounting and is more economical. These protective devices are of the same general type as those shown in Patents Nos. 1,435,213 and 1,726,807 issued to W. L. Cook. The protectors or discharge blocks 32 and 33 are connected by a single ground strip 36 which, it is noted, passes through a slot 37 between the two recesses 38 and 39 at the top of the staff 12. A single ground terminal 40 in Fig. 5 then connects the ground wire 41 to the ground strip in order to establish a ground connection for both discharge blocks. This ground wire as indicated in Fig. 1 passes through the opening 42 in the staff 12 so that it is retained out of the way of any of the other connections and passes out through the opening 30 with the instrument wire.

In this fashion a very simple and compact protector is provided without sacrificing any of the space requirements necessary for ease in wiring and safety in operation. The protector is preferably mounted by means of the bracket 10 upon the wall. The shaft of this bracket is shown best in Figs. 1 and 2. The base portion 43 thereof is cut out as indicated at 44 and 45, and the porcelain base 11 has raised portions around the openings 30 and 30' which receive the instrument wires and the line wires. The free end portion of the portion 43 has a tongue 46 which turns up and fits over a corresponding groove at 47 in the base, which groove is directly aligned with the ridge 14 on the staff. A suitable nut indicated at 48 serves as a means of securing the screw bolt 49 which holds the cover in place.

The bracket 10 is bolted to the base 11 by means of the bolts indicated at 50. The bracket has below the protector an outwardly offset portion 51 which is slotted with a bayonet slot at 52 so as to receive the securing member 53 to secure the split insulator clamp 54 in position. This clamp is used to properly route the line wires as indicated in Fig. 2 and take up the slack in these wires. The bracket is, of course, secured to the building wall by lag screws or other suitable means.

From the above description, it is believed that the construction and operation of this device will be clear to those skilled in this art, and the advantages thereof readily apparent.

Having thus described one specific form of the invention, what is claimed as new and is desired to be secured by United States Letters Patent is:

1. An outdoor protective device for telephone and similar systems comprising an insulating base, mounting means therefor, a staff portion rising from said base and having on opposite sides thereof fuse mountings, which mountings are staggered so as not to lie directly opposite each other, said base having provisions for receiving the line connections on one side of said staff and the instrument connections on the other side thereof.

2. An outdoor protective device for telephone and similar systems comprising an insulating base, mounting means therefor, a staff portion rising from said base and having on op-

posite sides thereof fuse mountings, which mountings are staggered so as not to lie directly opposite each other, said staff having a ground strip thereon, and a pair of high potential protectors mounted on said staff on opposite sides thereof and interposed between said ground strip and said mountings.

3. An outdoor protective device for telephone and similar systems comprising an insulating base, mounting means therefor, a staff portion rising from said base and having on opposite sides thereof fuse mountings, which mountings are staggered so as not to lie directly opposite each other, said staff having a ground strip thereon, and high potential protective means interposed between said strip and mountings, said staff having recesses on opposite sides thereof in which said protective means are mounted.

4. An outdoor protective device for telephone and similar systems comprising an insulating base, mounting means therefor, a staff portion rising from said base and having on opposite sides thereof fuse mountings, which mountings are staggered so as not to lie directly opposite each other, said staff having a ground strip thereon, and high potential protective means interposed between said strip and mountings, said staff having recesses on opposite sides thereof in which said protective means are mounted, said recesses being staggered so as not to lie directly opposite each other.

5. An outdoor protective device for telephone and similar systems comprising an insulating base, mounting means therefor, a staff portion rising from said base and having on opposite sides thereof fuse mountings, which mountings are staggered so as not to lie directly opposite each other, said staff having a ground strip thereon and high potential protective means interposed between said strip and mountings, said staff having recesses on opposite sides thereof in which said protective means are mounted, said recesses being staggered so as not to lie directly opposite each other, and said recesses being connected by a slot through which said ground strip extends.

6. An outdoor protective device for telephone and similar systems comprising an insulating base, mounting means therefor, a staff portion rising from said base and having on opposite sides thereof fuse mountings, said staff having a ground strip thereon and high potential protective means interposed between said strip and mountings, said staff having recesses on opposite sides thereof in which said protective means are mounted, said recesses being staggered so as not to lie directly opposite each other.

7. An outdoor protective device for telephone and similar systems comprising an insulating base, mounting means therefor, a staff portion rising from said base and having thereon a plurality of fuse mountings and wiring terminals connected therewith for receiving line and instrument connections, and said base being apertured on one side of said staff for the line connections and having an aperture on the other side thereof for the instrument connections, said last named aperture being partially obstructed by a body of readily removable material whereby the size thereof may be increased by removal of said material.

8. An outdoor protective device for telephone and similar systems comprising an insulating base, mounting means therefor, a staff portion rising from said base and having thereon a plu-

ality of fuse mountings and wiring terminals connected therewith for receiving line and instrument connections, a supporting bracket secured to said base and having an offset portion below said base to receive an insulator on said portion to which the line connections are secured.

9. An outdoor protective device for telephone and similar systems comprising an insulating base, mounting means therefor, a staff portion rising from said base and having thereon a plurality of fuse mountings and wiring terminals connected therewith for receiving line and instrument connections, said staff having a pair of high potential protectors thereon, one on each side thereof, a ground terminal, and a single ground strip connecting said protectors with said terminal, said staff having recesses for said protectors, and a slot between said recesses through which said strip passes.

10. A protector device for telephone and simi-

lar systems comprising an insulating base, mounting means therefor, a staff projecting from said base and having fuse mountings for a pair of fuses thereon, said mountings being on opposite sides of said staff and staggered so as not to lie directly opposite each other, a slot in said staff and a ground strip mounted in said slot for serving both said fuse mountings.

11. A protector device for telephone and similar systems comprising an insulating base, mounting means therefor, a staff projecting from said base and having fuse mountings for a pair of fuses thereon, said mountings being on opposite sides of said staff and staggered so as not to lie directly opposite each other, a slot in said staff and a ground strip mounted in said slot, said staff having a high potential protective device on each side thereof interposed between the ground strip and the fuse mountings.

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