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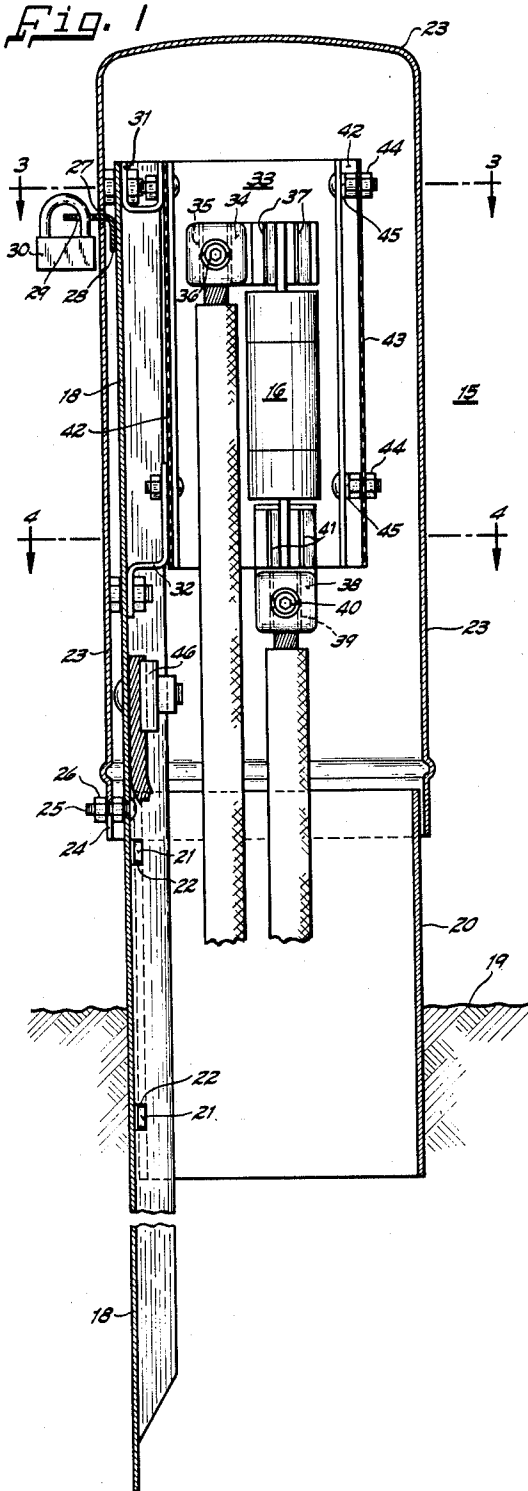
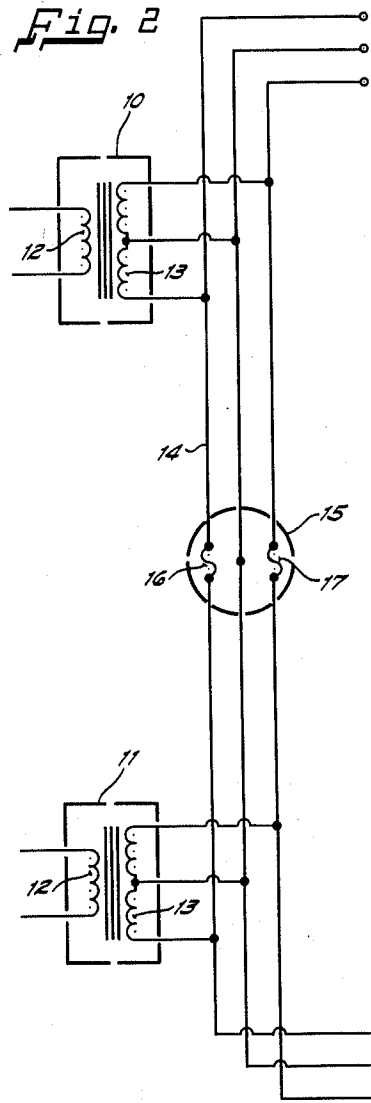
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3,153,116

FUSED BANKING PEDESTAL WITH INSULATING TERMINAL SHIELD MEANS

Filed Oct. 16, 1961

2 Sheets-Sheet 1



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Fig. 3

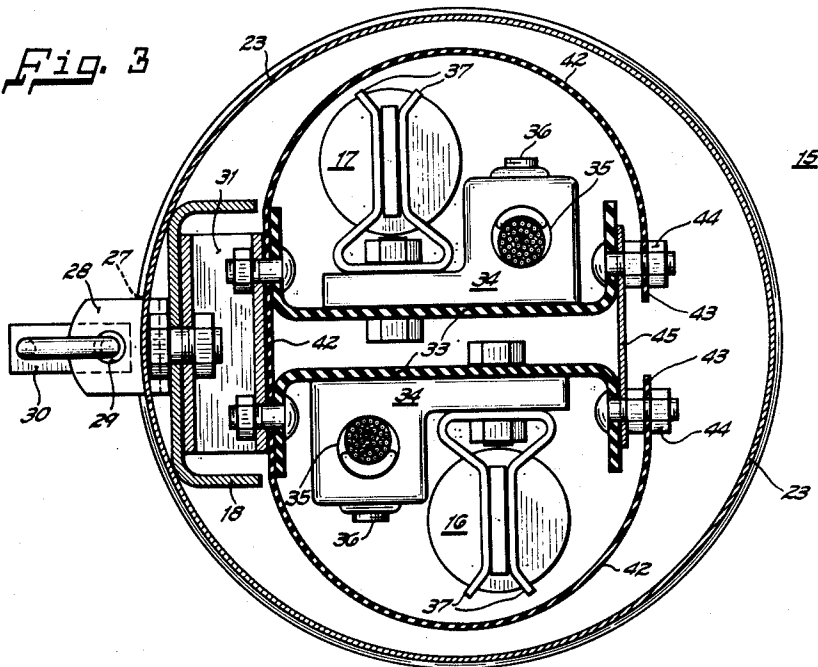
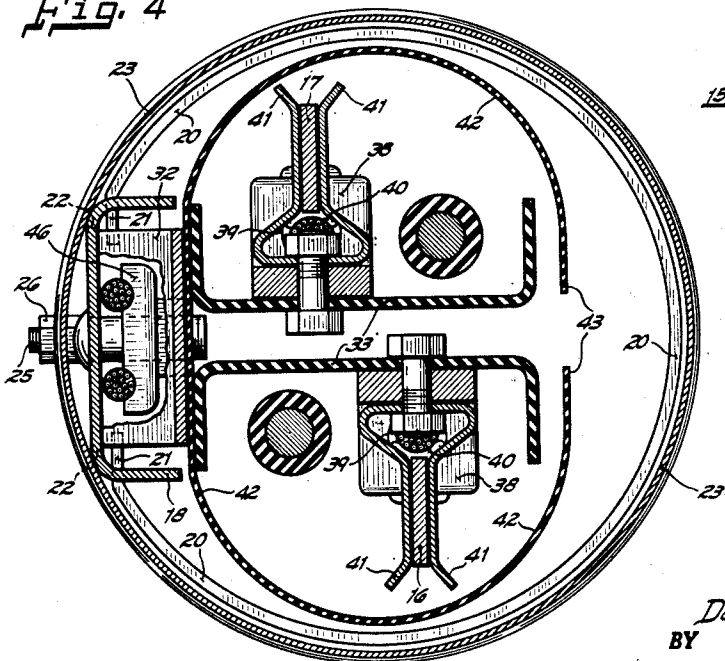


Fig. 4



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4 Claims. (Cl. 174—38)

This invention relates generally to fuse pedestals and more particularly to an improved fuse pedestal adapted for use at the tie points of underground secondary mains.

In present day underground distribution practice it is common to parallel or bank the transformer secondaries. The lines tying the secondaries together normally carry very little current since each transformer effectively supplies its adjacent loads. However, upon the occurrence of overloads on the system the lines permit other transformers on the line to contribute to the load thereby preventing excessive voltage drop at the customer service site and overloading of the nearest transformer.

Since short time overloads are shared by adjacent transformers the use of banked secondaries permits the installation of smaller rated transformers than would otherwise be feasible. Total system investment is as a result substantially diminished without sacrificing the reliability of the underground system.

In the case of high long time overloads, certain disadvantages become apparent in the described system. The main one of these is the fact that the secondary breaker in the transformer nearest the overload opens in the face of the overload causing all the load to be placed on the adjacent transformer, the breaker of which also opens. In turn each transformer secondary breaker would trip resulting in an outage for the entire connected load.

In order to prevent the sequential tripping of the breakers a current limiting device is necessary somewhere in the secondary line between adjacent transformers. In accord with this provision must be made for access to the current limiting device without completely compromising the underground distribution system.

With the foregoing in mind I have provided an improvement in the structure disclosed in my copending application entitled Pedestals for Under-Ground Wiring Systems, Serial No. 2,516, filed on January 14, 1960, now Patent Number 3,033,912, granted May 8, 1962.

It is therefore an object of this invention to provide an improved pedestal for use in conjunction with current limiting means between adjacent banked transformers.

Another object of this invention is to provide a fused banking pedestal which is especially compact.

A further object of this invention is to provide a fuse pedestal in which the fuses are readily accessible for replacement or for sectionalizing purposes.

Another object of this invention is to provide a pedestal which is of such a construction that bending of conductors is unnecessary.

A further object of this invention is to provide a pedestal which is electrically safe.

A still further object of this invention is to provide a fuse pedestal which is simple and inexpensive to manufacture and which is installed with a great deal of facility.

Other objects and advantages of my invention will be apparent from the following description of the preferred embodiments of the invention taken in connection with the accompanying drawings in which:

FIG. 1 is a view in cutaway elevation of the pedestal.

FIG. 2 is a wiring diagram showing how the pedestal and its components may be utilized.

FIG. 3 is a plan view of FIG. 1 taken along the lines 3—3.

FIG. 4 is a plan view of FIG. 1 taken along the lines 4—4.

Referring now to FIG. 2 there are diagrammatically shown two transformers 10 and 11 having a primary winding 12 and a secondary winding 13. The secondary windings 13 are interconnected by conductors 14 which would normally be buried in the earth. Interposed in the system between the transformers is an above ground pedestal 15 which houses fuses 16 and 17. The fuses serve to limit current in the conductors between transformers to a value below that at which progressive secondary breaker opening occurs, as previously discussed.

In FIG. 1 the fuse housing or pedestal is shown and is designated at 15. The pedestal comprises a support spur 18 which is partially driven into the ground 19 in close proximity to the secondary conductors 14 and intermediate the transformers 10 and 11. A ground line cover 20 is partially buried in the ground with the spur 18 and projects upwardly coextensive with the spur for a distance terminating well below the upper end of the spur. The cover 20 is a tubular member having a circumferential portion approximating the width of the spur removed thruout the length of the cover with the edges of the so defined opening abutting against the side walls of the spur 18.

Tabs 21 are formed along portions of the opposite edges of the opening in cover 20. Mating slots 22 are formed in the web and side walls of the spur 18 and are placed so as to receive the tabs 21 in order to interlock the ground line cover 20 to the spur 18. To affix the cover to the spur the former is sprung open sufficiently to allow the tabs to enter the spur slots. The cover is then released and its spring tension serves to hold the cover tightly against the spur.

A dome 23 is positioned over the upper end of the spur and surrounds the upper end of the ground line cover 20. A slot 24 is formed in the lower edge of the dome and is adapted to receive a bolt 25 which is affixed to the spur. A lock nut 26 is fitted onto the bolt 25 and serves to join the spur and dome together. Since good electrical contact between the dome and spur is maintained the potential of both is that of ground.

The dome may also be slotted near its upper end at 27. A lock tab 28 which is affixed to the spur 18 projects thru the slot 27. The outer end of the lock tab 28 has an opening 29 which is adapted to receive a portion of a conventional lock 30.

The device described up to this point is described more fully in my previously referred to earlier filed application. As such the device has all the advantages discussed in detail in that application.

Affixed in spaced apart relation to the spur 18 within the dome 23 are, respectively, a substantially U-shaped mounting bracket 31 and an approximately Z-shaped mounting bracket 32. Two relatively elongate, insulating, channel shaped members 33 which may be of fiber glass reinforced polyester are affixed, as by bolts, along one side thereof to the spaced apart brackets 31 and 32 with the channel webs in back to back relationship with one another.

Two angle type terminal lugs 34 are fixed to the upper web portion of the members 33. Each of the lugs 34 has a conductor receiving portion 35, a conductor gripping portion 36 and a fuse clip 37. Two lower terminal lugs 38 are affixed to the web of members 33 near the bottom thereof. As above, each of the lugs 38 has a conductor receiving portion 39, a conductor gripping portion 40 and a fuse clip 41.

A terminal shield 42 which may be of natural polyethylene is of approximately the same length as the members 33 and is fixedly positioned at its upper end between the bracket 31 and members 33 and at its lower end be-

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tween the bracket 32 and the members 33 as for example by passing the bolts holding the brackets and channel members together therethru. Each of the ends 43 of the terminal shield 42 are brought around the upper lugs and around portions of the lower lugs and are affixed as by bolts and nut connections 44 to the far legs of the channel members 33. The connection 44 may also be utilized to affix stabilizing straps 45 between the legs of the channel members.

It can be readily seen that the terminal shield prevents conductive components of the pedestal interior from coming in contact with the dome member. This is especially important when placing or removing the dome. If for one reason or another the shield is not replaced in the surrounding relation of FIGS. 3 and 4 subsequent to, for example, fuse replacement, the dome cannot be correctly positioned until the terminal shield is properly affixed to the far legs of the channel member thereby preventing internal short circuiting.

In the disclosed construction the neutral wires are brought up from the ground thru the ground line cover and dome and effectively grounded by affixing them to the spur 18 via a grounding bracket 46. The conductors are brought up from the ground thru the ground line cover and dome and are passed into the upper terminal lugs. Current passes from the conductors thru the terminal lugs and down thru fuses 15 and 16 and lower terminal lugs from which conductors extend back down thru the dome and ground cover into the earth.

The improved internal structure disclosed is exceedingly simple to manufacture and install and is relatively inexpensive to produce and maintain. The structure is in addition electrically "safe" and mechanically strong. The disclosed construction is particularly designed to house a number of fuses in a small, compact space thereby enabling the size of the pedestal to be decreased according to consumer and utility demands. The internal pedestal structure described is particularly adapted for use with my previously disclosed and referred to pedestal structure but it is also versatile to the extent that it may be utilized to advantage with other type pedestal constructions.

While one particular embodiment of the invention has been shown and described, it will be obvious to those skilled in the prior art that various changes and modification can be made therefrom without departing from the invention and, therefore, it is intended for the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

I therefore claim:

1. In a pedestal for underground wiring systems of the type which include a ground support member, cable passageway means, and a removable enclosure situated above the cable passageway and releasably secured to said support member, the improvement therein comprising, insulating support means affixed to said ground support member within said enclosure, terminal means affixed to

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said support means, and terminal shield means formed of insulating material connected to said support means and irremovable therefrom while said support means remains affixed to said ground support member, said terminal shield means having a first position permitting access to said terminal means and a second position in substantially surrounding relation to said terminal means, said terminal shield means in said first position interfering with and preventing mounting of said enclosure on said support member in terminal enclosing relation thereto.

2. In a pedestal for underground wiring systems of the type which include a ground support member, cable passageway means, and a removable enclosure member, the improvement therein comprising a pair of insulating support channels connected to said ground support in back to back relation within said enclosure member, spaced apart fuse and cable terminal means affixed to said support channels, insulating shield means having a first position permitting access to said terminal means and a second position in substantially surrounding relation to said terminal means, first connecting means securing both said support channels and said shield means to said ground support member in such manner that said shield means is irremovable from said ground support member while said support channels are connected thereto and second connecting means releasably securing said shield means in said second position, said insulating shield means when disposed in said first position effectively preventing proper placement of said enclosure member thereover.

3. In a pedestal for underground wiring systems of the type which include a ground support member, cable passageway means, and a removable enclosure seated atop the cable passageway means, the improvement therein comprising a pair of insulating support channels disposed in back to back relation within said enclosure member, spaced apart fuse and cable terminal means affixed to said support channels, insulating means normally disposed in a first position in substantially surrounding relation to said fuse and cable terminal means and movable to a second position providing access to said fuse and cable terminal means, and connecting means simultaneously connecting said support channels and insulating means to said ground support member in such manner that said insulating means cannot be disconnected from said ground support member while said channels remain secured thereto, said insulating means when disposed in said second position effectively preventing proper placement of said enclosure member thereover.

4. A device as in claim 3 wherein said insulating means comprises a resilient polyethylene sheet.

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