

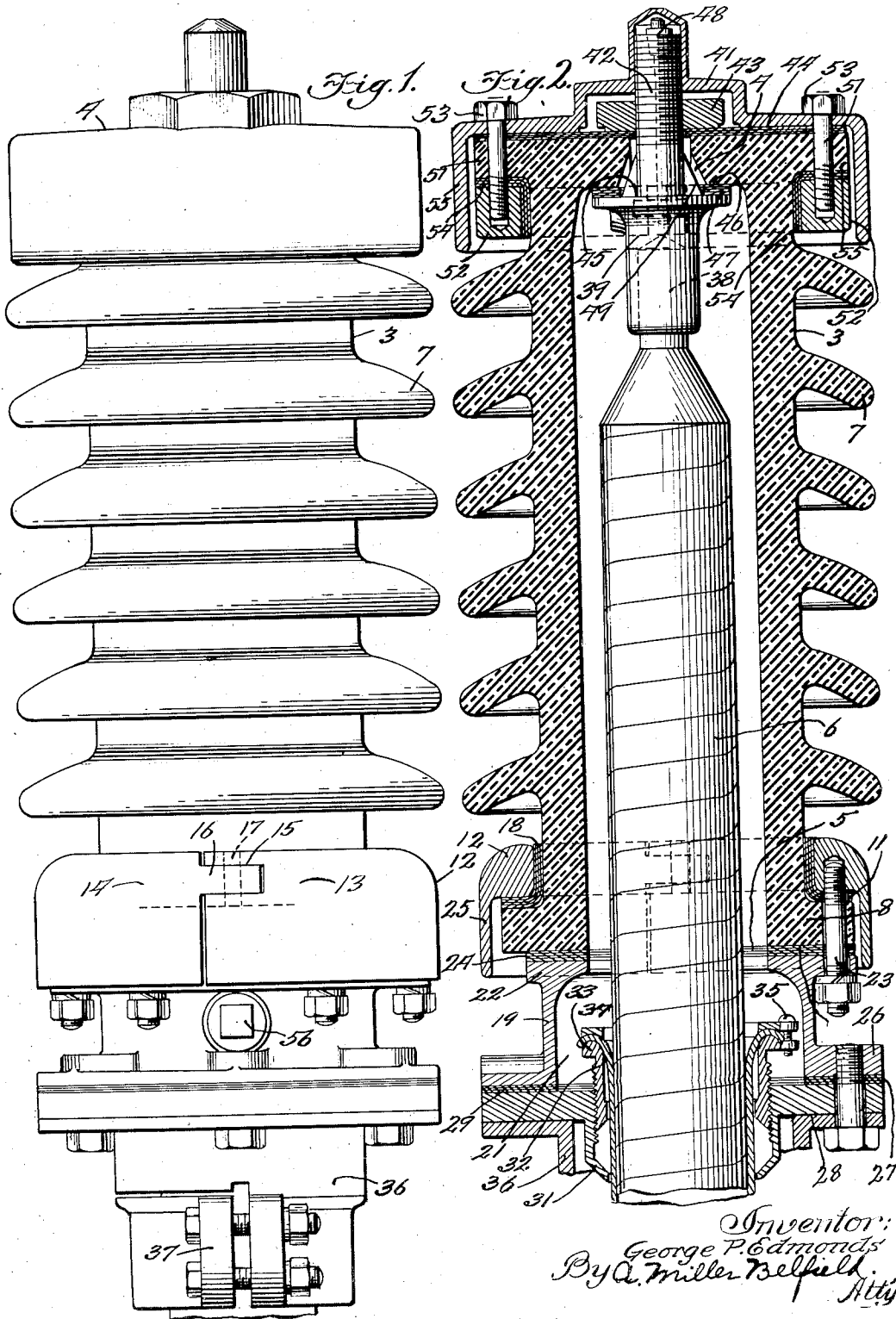
Dec. 13, 1932.

G. P. EDMONDS

1,891,213

POTHEAD DEVICE

Filed Aug. 13, 1929



## UNITED STATES PATENT OFFICE

GEORGE P. EDMONDS, OF CHICAGO, ILLINOIS, ASSIGNOR TO G & W ELECTRIC SPECIALTY CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

## POTHEAD DEVICE

Application filed August 13, 1929. Serial No. 385,642.

This invention relates to electrical conductors in general and more particularly to pothead devices such as are used for connecting electrical cables and overhead conductors.

Pothead devices usually include a tubular insulation member of porcelain for receiving an electrical cable, and an inlet device connected to the porcelain at the inlet end thereof for closing the same and supporting the cable. The outlet end of the porcelain is also provided with a device for closing the same and for forming a contact whereby the cable may be electrically connected to the overhead conductor. It is highly desirable to connect these inlet and outlet devices to the porcelain in such a manner that the connection will withstand rough usage, and there will be no leakage of the oil or other compound used in the pothead for maintaining the wrapping of the cable in the desired condition. The most important of these in this respect is the inlet and it has been customary in the past to cement a ring to the inlet end of the porcelain and to attach the inlet device to this ring.

The primary object of this invention is to provide inlet and outlet devices for potheads and connections therefor to the porcelain of the pothead without cementing a ring thereto for attachment of such devices, whereby no leakage of oil or other compound from the pothead can take place, notwithstanding considerable rough usage thereof.

Another object of this invention is to provide a pothead device which is readily accessible for inspection, renewal or repair, and which can be economically manufactured and assembled.

Other and further objects of this invention will be apparent as the same becomes better understood from an examination of the specification and claims in connection with the accompanying drawing, wherein:

Fig. 1 is an elevation of a pothead embodying this invention, and

Fig. 2 is a vertical section of the same.

Referring more particularly to the drawing, reference character 3 designates a tubular insulator member provided with an open-

ing 4 at its upper end and an opening 5 at its lower end for the reception of an electrical cable 6. The insulator member 3 is provided with a plurality of peripherally longitudinally spaced dielectric baffles 7.

The cable 6 is supported in the inlet end of the pothead device through the opening 5 through the intermediary of an arrangement which will now be described.

The inlet end of the tubular insulator member 3 is provided with an outwardly extending circular flange 8, the flange and end forming a circular shoulder 9.

The upper side of the flange 8 forms a second shoulder 11, both of said shoulders being in planes normal to the axis of the pothead. An annular ring 12 surrounds the lower end of the insulator member 3 above the shoulder 11 and is formed of two semi-circular sections 13 and 14. The section 13 is provided with grooves 15 for the reception of tongues 16 respectively on the section 14. These tongues 16 are each held in its respective groove 15 by means of a pin 17. Thus the ring 12 may be affixed in position above the shoulder 11 with its inner periphery in close proximity to the periphery of the member 3 which, were said ring not in sections, would be impossible, because of the fact that this ring when assembled has an inner diameter less than that of the flange 8 and also less than that of the baffles 7, so that the ring could not be slipped over the member 3 from above. An annular member 18 of soft material is inserted between the ring 12 and the insulator 3 to allow for any unevenness that may be present in manufacture. An annular housing 19 providing a chamber 21 of increased diameter relative to the diameter of the interior of the insulator 3 is provided with a circular flange 22. Circularly arranged bolts 23 extending through the flanges 22 and 8 and threaded into the ring 12, act to clamp the housing 19 to the lower end of the insulator member 3, a gasket 24 being positioned between the flange 22 and the shoulder 9.

The ring 12 is provided with an integral skirt 25 depending therefrom for shedding water.

The lower end of the housing 19 is provided with an outwardly extending flange 26 for the reception of bolts 27 which act to clamp a closure 28 against said flange, a gasket 29 coming between said closure and flange. The closure 28 is provided with a central integral stuffing box 31 for the cable 6 and a combined gland therefor and standard 32. This combined gland and standard is provided with an integral circular ring 33 on which the upper end of the cable sheath may be turned, a second ring 34 being clamped by screws 35 against the upper end of said sheath and the ring 33 to secure said end.

The bolts 27 also act to support the pothead on an annular bracket 36 provided with a clamp 37 by means of which the bracket may be attached to a suitable support.

The upper end of the cable 6 is in the form of a male plug 38 which fits in a suitable socket in the lower end of a terminal member 39. This terminal member acts to electrically connect the end of the cable to a combined cover and contact 41 which fits over the upper end of the insulator member 3, said terminal member being provided with a threaded extension 42 which extends through the opening 4 and is threaded to said cover.

The extension 42 is provided with a nut 43 which is threaded thereon. This nut 43 engages the upper end of the insulator member 3 through the intermediary of a gasket 44 and may be used prior to affixing the cover 41 to draw an annular shoulder 45 on the member 39 against a shoulder 46 on the insulator member 3 at the lower end of the opening 4, a gasket 47 being clamped between the said shoulders 45 and 46 to prevent leakage of oil through said opening. The nut 43 engaging the upper end of the insulator member 3 at the outer end of the opening 4 forms an additional assurance against leakage through the opening 4.

An air vent 48 is provided for permitting the escape of air from beneath the shoulder 45 to the chamber formed between the extension 42 and the cover 41.

The member 39 is provided with positioning webs 49 for cooperating with suitable grooves in the insulator member 3 at the opening 4 for assuring the proper positioning of said member 39 and for preventing rotation thereof.

For still further assurance against leakage of the oil or other compound in the insulator and for providing a more durable construction whereby the cover 41 is assured against working loose, the insulator 3 is provided at its upper end with an integral flange 51 corresponding to the flange 8 at its other end and a sectional ring 52 is provided similar to the ring 12 with the exception that in this case the ring is not provided with a skirt. Bolts 53 extend through the cover and flange 51 and are threaded in the ring 52 for clamp-

ing the edges of said cover on the insulator member, an annular member 54 similar to the annular member 18 being provided between the ring 52 and flange 51. In this case a skirt 55 is provided integral with the cover for shedding water.

A plug 56 permits access to the housing 19 for filling the pothead with oil or other compound to be used for keeping the insulation wrapping on the cable in the desired condition.

It will be apparent that the means for clamping the various gaskets together operate without relative rotation between the parts on the opposite sides of the respective gaskets, thus assuring against interference with the evenness of the gaskets during the clamping operation.

Other advantages of the aforescribed construction will be apparent without further description.

I am aware that many changes and modifications may be made without departing from the principles of this invention, and I therefore do not wish to be limited to the details shown or described.

What I claim is:

1. In a device of the character described, the combination of a tubular insulator member adapted to receive a cable therein and provided with an annular shoulder at one end and a second annular shoulder longitudinally spaced therefrom, a sectional member engaging said second shoulder, and a closure member for said end means for connecting the said sectional member for engaging said first shoulder.

2. In a device of the character described, the combination of a tubular insulator member adapted to receive a cable therein and provided with an annular shoulder at one end and a second annular shoulder longitudinally spaced therefrom, a sectional member engaging said second shoulder, a closure member over said end and means for drawing said sectional member and closure toward each other without relative rotation therebetween to cause the closure member to engage said first shoulder.

3. In a device of the character described, the combination of a tubular insulator member adapted to receive a cable therein and provided with an annular shoulder at one end and a second annular shoulder longitudinally spaced therefrom, a sectional member engaging said second shoulder, and a closure member over said end means for connecting the said sectional member for engaging said first shoulder, the planes of said shoulders being normal to the axis of the tubular member.

4. In a device of the character described, the combination of a tubular insulator member adapted to receive a cable therein and provided with an annular shoulder at one end

and a second annular shoulder longitudinally spaced therefrom, a sectional member engaging said second shoulder, and a closure member over said end connected by means of  
5 longitudinally extending bolts to said sectional member and engaging said first shoulder.

5. In a device of the character described, the combination of a tubular insulator member adapted to receive a cable therein and provided with an annular flange at one end, a sectional member engaged above said flange and a closure member engaged below said flange and means for connecting said sectional member to said closure member.

6. In a device of the character described, the combination of a tubular insulator member adapted to receive a cable therein and provided with an annular shoulder at one end and a second annular shoulder longitudinally spaced therefrom, a sectional member embracing the periphery of the tubular member and said second shoulder, and a closure member over said end and means for  
20 connecting said sectional member for engaging said first shoulder.

7. In a device of the character described, the combination of a tubular insulator member adapted to receive a cable therein and provided with an annular shoulder at one end and a second annular shoulder longitudinally spaced therefrom, a sectional member engaging said second shoulder, a closure member for said end means for connecting the  
30 said sectional member for engaging said first shoulder, and a resilient substance between the sectional member and second shoulder to accommodate any unevenness of the parts.

8. In a device of the character described, the combination of a tubular insulator member adapted to receive a cable therein and provided with an annular shoulder at one end and a second annular shoulder longitudinally spaced therefrom, a sectional member engaging said second shoulder, a cable sheath supporting member and means for connecting  
45 said sectional member for engaging said first shoulder.

9. In a device of the character described, the combination of a tubular insulator member adapted to receive a cable therein and provided with an annular shoulder at one end and a second annular shoulder longitudinally spaced therefrom, a sectional member engaging said second shoulder, a cable stuffing box supporting member and means for connecting  
55 said sectional member for engaging said first shoulder.

10. In a device of the character described, the combination of a tubular insulator member adapted to receive a cable therein, having an inturned apertured flange at the top thereof for the cable end to protrude therethrough, a nut having a screw-threaded engagement  
65 with the protruded cable end for supporting

same on the said inturned flanges, a cover member also having screw-threaded engagement with the said cable end, said cover member being entirely closed at the top, and having a stepped flange overlying the top of the tubular insulator, said step arranged to accommodate the said supporting nut, and bolts taking through said flange for connecting same to the insulator.

11. In a device of the character described, the combination of a tubular insulator member adapted to receive a cable therein having an apertured flange at the bottom thereof to receive a cable therethrough, a housing having an opening therein, a ring surrounding said tubular insulating member and adapted to be drawn toward said housing to hold said insulator member in place and a pair of packing members interposed between said ring and said flange and said tubular member and  
85 said housing and means for drawing said ring toward said housing.

12. In a device of the character described, the combination of a tubular insulator member adapted to receive a cable therein having an apertured flange at the bottom thereof to receive a cable therethrough, a housing having an opening therein, a split ring surrounding said tubular insulating member and adapted to be drawn toward said housing to hold said insulator member in place and a pair of packing members interposed between said split ring and said flange and said tubular member and said housing, means for drawing said ring toward said housing, one section of said split ring having a pair of tongues and the other section having cooperating grooves.

In witness whereof, I hereunto subscribe my name.

GEORGE P. EDMONDS.