

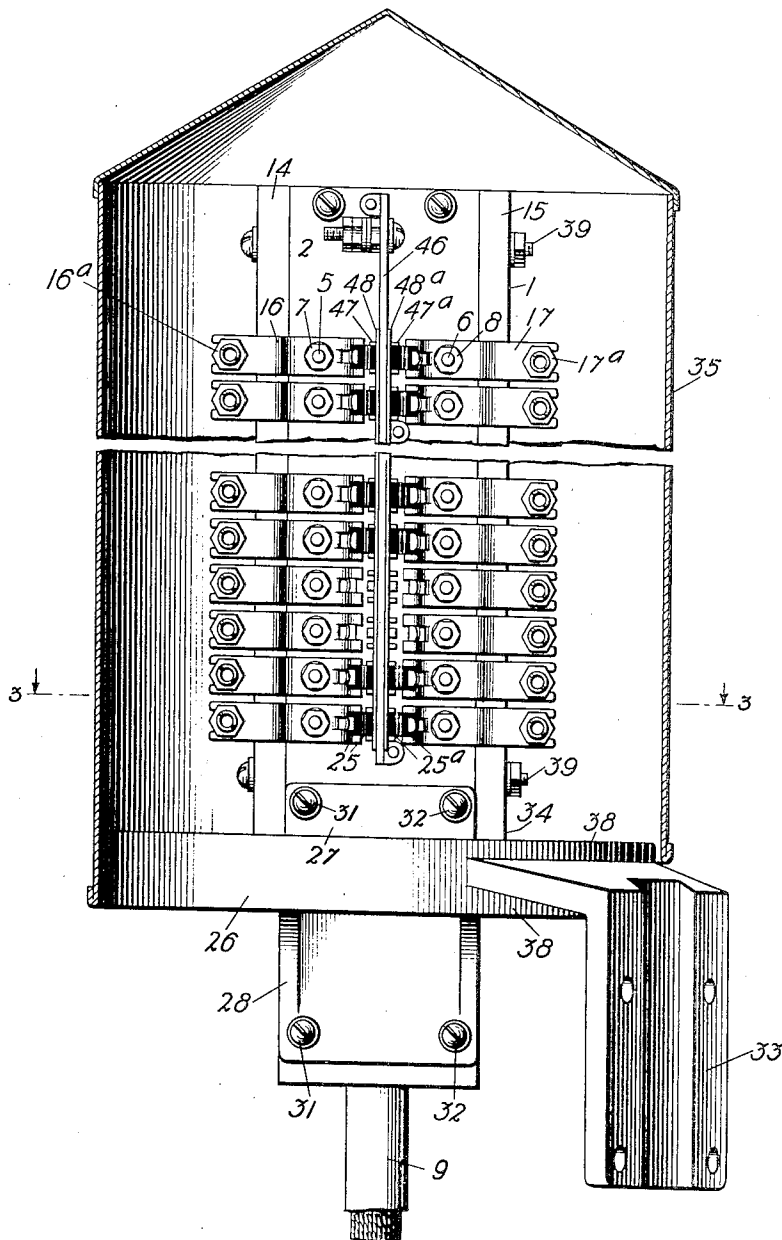
H. W. DUNBAR.  
CABLE TERMINAL.  
APPLICATION FILED DEC. 27, 1910.

1,126,733.

Patented Feb. 2, 1915.

4 SHEETS—SHEET 1.

Fig. 1



Witnesses  
O. M. Guthe.  
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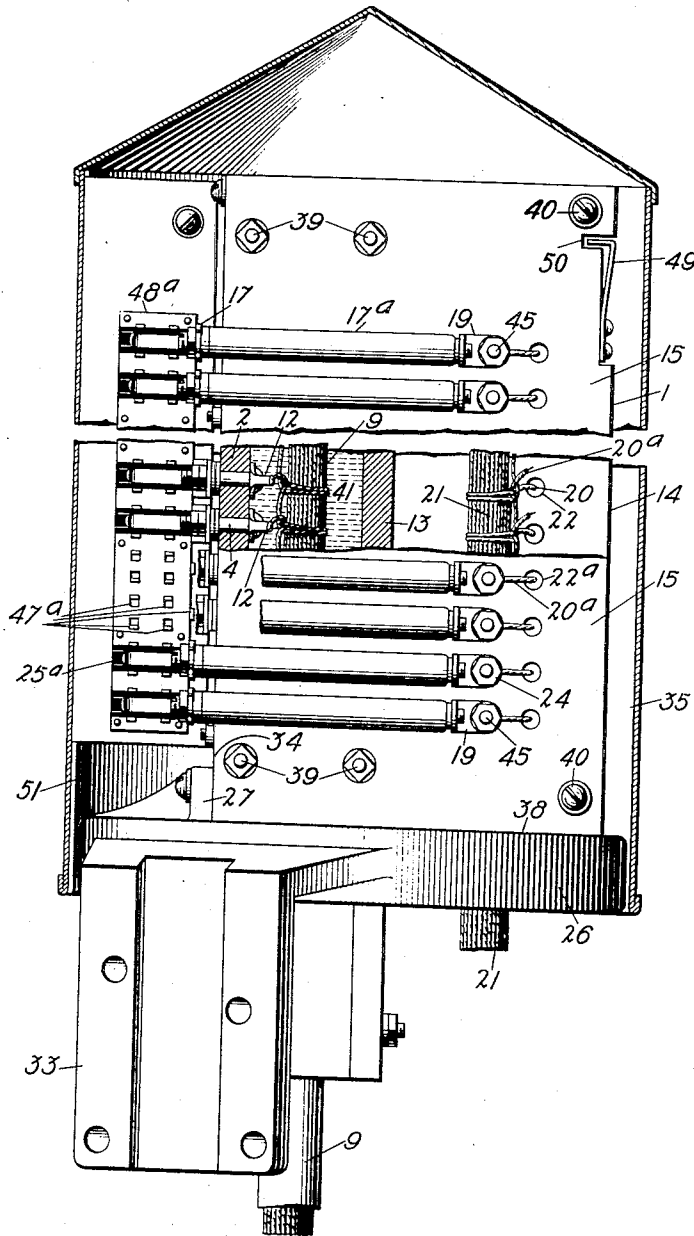
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4 SHEETS—SHEET 2.

Fig. 2



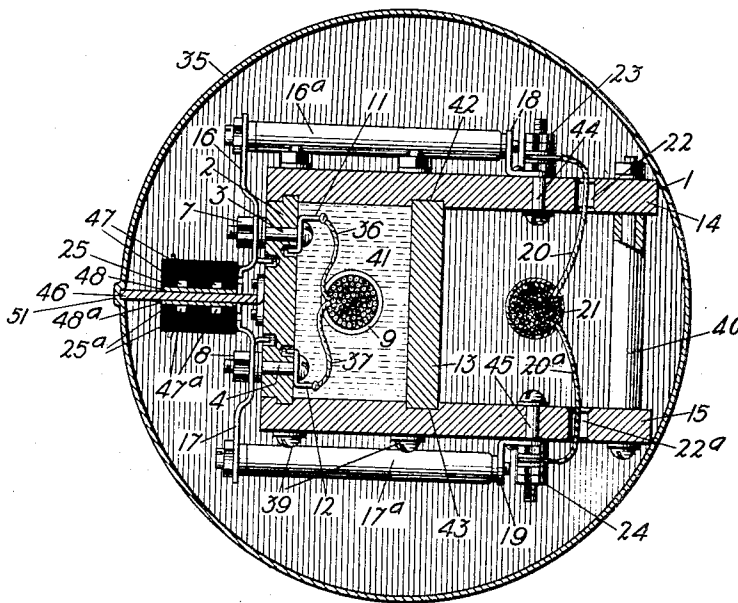
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4 SHEETS—SHEET 3.

Fig. 3



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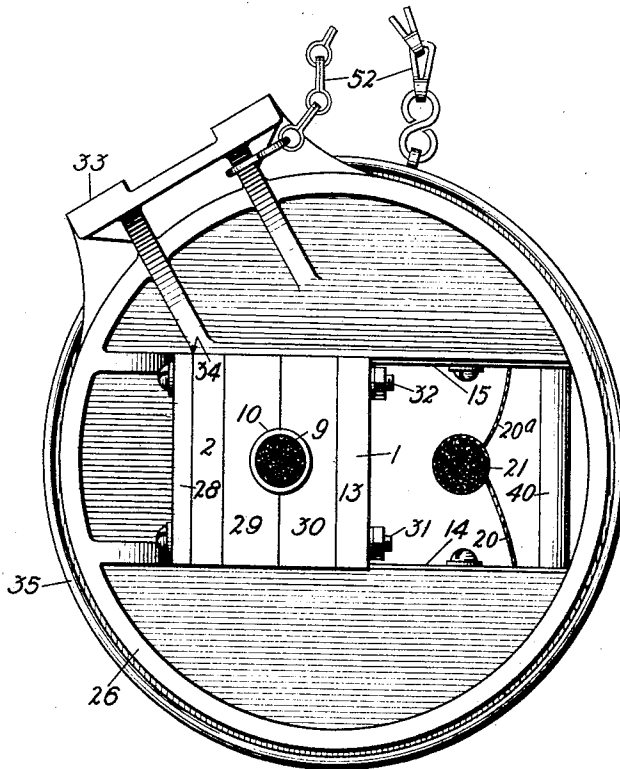
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4 SHEETS-SHEET 4.

Fig. 4



Witnesses  
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# UNITED STATES PATENT OFFICE.

HOWARD W. DUNBAR, OF NEWARK, NEW JERSEY, ASSIGNOR TO WESTERN ELECTRIC COMPANY, OF NEW YORK, N. Y., A CORPORATION OF ILLINOIS.

## CABLE-TERMINAL.

1,126,733.

Specification of Letters Patent.

Patented Feb. 2, 1915.

Application filed December 27, 1910. Serial No. 592,372.

*To all whom it may concern:*

Be it known that I, HOWARD W. DUNBAR, citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Cable-Terminals, of which the following is in full, clear, concise, and exact description.

This invention relates to cable terminals of the open and pothead type, such structures being commonly employed to distribute telephone conductors and to house protective devices connected therewith.

The object of the invention is to provide an improved structure of this character which shall be very compact, the protective devices and connections thereof readily accessible, and which will be cheap to manufacture, and efficient.

The structure may comprise a metal bracket upon the base of which is secured a rectangular cable head having a closed chamber within which the cable conductors are fanned out and connected to their proper binding posts, after which the chamber is filled with moisture-proof compound. In accordance with this invention, the said binding posts are secured in two rows longitudinally of one wall of the chamber and project therethrough, and each clamps to the exterior face thereof a fuse support and a lightning arrester support preferably in the form of a single spring. The outer ends of said springs are the fuse supports and those of each row project beyond the corresponding edge of the wall of the head upon which they are mounted and each coöperates with a fuse post in the corresponding row of two rows, one upon each adjacent wall, to support a tubular fuse. The inner ends of the springs form the spark gap arrester supports and are bent outwardly, each serving to maintain a pair of carbon blocks with their interposed dielectric against the corresponding side of a ground plate secured longitudinally of the wall of said chamber between said rows of combined supports. The side walls of the closed chamber are extended and perforated near their outer edges through which perforations the bridle wires are fanned out to the proper fuse posts above noted. Suitable cross bolts may connect these extensions at their outer edges and in addition to confining the bridle wires within the chamber thus formed serve to

prevent its side walls from buckling when the hot moisture-proof compound is poured in, in case the head is of wood, as in the present instance.

It is desirable that ready access be had to all sides of the head when mounted upon its supporting pole. This is accomplished by positioning the supporting arm of the cable terminal, by means of which it is attached to the pole, under a corner of the cable head.

A further feature of the invention relates to the means for guiding the protecting hood and maintaining the same stable upon the base of the terminal. Heretofore separate guiding strips have been employed. This invention does away with separate guides, and consists in utilizing the longitudinal edges of the head in conjunction with the ground plate to serve as three guiding points for a cylindrical hood.

Referring to the drawings—

Figure 1 is a front elevation of the cable terminal of this invention with its protecting hood in section; Fig. 2 is a side elevation of the same with the side wall partly broken away to disclose the method of connecting the incoming cable conductors and outgoing bridle wires to their respective binding posts; Fig. 3 is a sectional view on the line 3—3 of Fig. 1; and Fig. 4 is a view from below showing the manner in which the incoming cable is clamped to the base of the cable head.

The cable head 1, preferably of wood treated to resist moisture and to give it better insulating qualities, is of rectangular form. Secured longitudinally of the front wall 2 thereof are two rows of bolts 3, 4 projecting therethrough to form corresponding rows of exterior binding posts 5, 6 equipped with nuts 7, 8. The cable 9 is led to the interior of said cable head through an opening in the base 10 thereof and its conductors 36, 37 are fanned out in pairs to solder lugs 11, 12 clamped by the heads of said bolts 3, 4 to the interior face of the wall 2. After the fanning operation has been completed, and the side walls 14, 15 secured to the front wall 2 as by rabbet joints as shown, a wall 13 is slipped into the grooves 42, 43 of walls 14, 15 respectively also forming rabbet joints therewith, the bolts 39, at intervals of the length of walls 2 and 13 maintaining said walls rigidly in position within their respective

joints. The chamber thus formed is filled with the insulating compound 41, or, as sometimes called, is potheaded. It has been found in structures employing wooden heads that the potheading operation causes the sides thereof to buckle. To prevent displacement of the sides 14, 15, bolts 40 located at frequent intervals connect said sides.

Each pair of bolts 3, 4 supports a pair of opposed members 16, 17 forming a pair of leaf springs, secured thereto by nuts 7, 8. The outer ends of said springs project beyond their corresponding edge of the wall 2 and serve to removably support tubular fuses 16<sup>a</sup>, 17<sup>a</sup> of any suitable type, the opposite ends whereof are supported upon cooperating terminal brackets 18, 19, mounted upon bolts 44, 45 extending through the side walls 14, 15, respectively, of the cable head. The inner ends of each pair of leaf springs 16, 17 project outwardly and each serves to maintain a pair of carbon blocks 25, 25<sup>a</sup>, with an interposed mica sheet, in contact with tongues 47, 47<sup>a</sup>, respectively, punched from plates 48, 48<sup>a</sup>, carried upon the opposite sides of a ground plate 46, secured longitudinally of the wall 2 between the rows of combined supports 16, 17.

The side walls 14, 15 are extended rearwardly and form a chamber open at the rear, into which the bridle wires 20, 20<sup>a</sup>, etc., tied into a cable 21, are brought up through the base of the chamber and fanned out in pairs through the openings 22, 22<sup>a</sup>, in the side walls 14, 15, respectively, and connected on the outside to their corresponding bolts 44, 45 by nuts 23, 24. The bolts 40, in addition to maintaining the extensions of the walls 14, 15 stable, serve to form in effect a chamber for confining the bridle wires 20, 20<sup>a</sup> which therefore may be left loose if desired.

The parts described may be supported upon a suitable bracket 26 for attachment to the telephone pole. As shown, the bracket 26 is circular in form and preferably of cast iron.

The head 1 is rigidly supported upon the base plate 38 of the bracket. This is accomplished by extending the chamber which incloses the cable 9 and which consists of the walls 13, 2 and that part of the walls 14 and 15 which is contained between the walls 13 and 2 through an opening in the base plate 38. The extended chamber is securely and rigidly attached to the base plate 38 by means of brackets 27 and 28. These brackets are part of and integral with the base plate 38. That part of the walls 14 and 15 which is contained between the wall 13 and the bolts 40, rests upon the base plate 38 of the bracket. The extension of walls 2, 13, 14 and 15 also provides means for leading the cable 9 into the chamber in such a man-

ner that there will be no strain exerted by the cable conductors 36, 37 upon the lugs 11, 12. This is accomplished by providing two blocks 29, 30 (Fig. 4) each with a channel which, when the blocks are placed together, provide an opening slightly less in diameter than the cable, so that when the cable has been led into the chamber through said channel, the tightening of bolts 31, 32 clamps the cable 9, thereby relieving all strain.

Considerable difficulty has been encountered in gaining access to the side of the head facing the pole at the top of which such structures are usually mounted. The structure of the present invention overcomes this obstacle and consists in providing the bracket 26 with an arm 33, preferably cast therewith in such relation to the opening in the bracket through which the said extension of the head 1 is intended to pass as to be adjacent a corner 34 thereof, or in other words, so that a line drawn through the transverse axis of the head intersects the plane of the arm, making an angle of about 60° therewith, from which it follows that the structure may be mounted very close to the pole while providing access to each of its faces.

The cable head 1 is protected from the weather by a cylindrical hood 35, preferably of heavy galvanized iron, adapted to be guided thereover and held in place by the edges of the side walls 14, 15 and the ground plate, the outer edge of said ground plate riding in a groove 51 therein to prevent rotation of the hood. A chain 52 secured at one end to the bottom of the hood and at its other to the arm 33 of the bracket, serves to suspend the hood when removed from the head. In case it is not desired to entirely remove the hood, two spring tension devices 49, one secured to the edge of each of the walls 14, 15, normally held by the interior face of the hood within grooves 50, operate when the lower edge of the hood has cleared them to spring outwardly and support the same.

I claim:

1. In a cable terminal, the combination with a rectangular cable head, of two rows of fuse posts mounted upon opposite sides of said head longitudinally thereof, two rows of fuse supports mounted on a third side longitudinally thereof, each support projecting beyond the adjacent edge of the side upon which said supports are mounted to cooperate with an adjacent fuse post to support a tubular fuse, a ground plate mounted between said rows of fuse supports, and a row of arresters located on each side of said ground plate.

2. In a cable terminal, the combination with a cable head consisting of a wooden rectangular box, of a row of fuse posts

mounted upon opposite sides of said box, two rows of combined fuse and arrester supports mounted upon a third side, a ground plate secured to said cable head between said

thereof, and cross bolts connecting said extensions and adapted to render them rigid and to confine said bridle wires within said open chamber.

5 last named rows, a tubular fuse held between each of the corresponding fuse posts and supports in their respective rows, and a pair of carbon blocks supported between each arrester support and said ground plate.

10 3. In a cable terminal, the combination with a rectangular wooden cable head having two parallel rows of bolts projecting through one of its walls adapted to support lugs upon the interior to receive the incoming cable conductors, said rows of bolts supporting on the exterior of said wall two corresponding rows of arrester and fuse supports, a ground plate secured to said cable head between said rows of supports, a row  
15 of fuse posts upon each of the adjacent walls each adapted to cooperate with its corresponding first named row to support two sets of fuses, and pairs of bridle wires adapted to be fanned through openings in  
20 said adjacent sides and the members thereof connected to the corresponding last named fuse posts.

4. A wooden cable head having a closed chamber, two opposite sides whereof are extended and provided in their extended portions with perforations adapted to receive  
30 bridle wires leading into the open chamber formed by said extensions, and cross bolts connecting said extensions and adapted to render them rigid and confine said bridle  
35 wires within said open chamber.

5. A rectangular wooden cable head having a closed chamber, two opposite sides whereof are extended to form an open chamber and are provided with holes in their extended portions, binding posts in said  
40 closed chamber, a cable having conductors fanned out to said binding posts, a moisture proof compound sealing said chamber,  
45 bridle wires within said open chamber and led through said perforations in the walls

6. In a cable terminal, the combination with a rectangular cable head, a base therefor, protective apparatus mounted upon three sides thereof, the remaining side forming with extensions of the adjacent sides an  
55 open chamber, conductors led into said open chamber, and a supporting arm carried by said base adjacent a corner of said head, whereby all four sides of said head are accessible.

7. In a cable terminal, the combination with a rectangular cable head, a base therefor, protective apparatus mounted upon three sides thereof, conductors led into a chamber formed by the remaining side and  
65 extensions of its adjacent sides, and an arm attached to said base in such relation to said head that the plane of the arm is in angular relation to the planes of the sides of the cable head.

8. A cable terminal comprising a cable head having a closed chamber, two opposite sides whereof are extended and provided in their extended portions with perforations adapted to receive bridle wires leading into  
75 the open chamber formed by said extended portions, binding posts mounted in a wall of said closed chamber and adapted for connection to the wires of a cable therein, binding posts mounted in said extended sides adjacent said perforations and adapted for  
80 connection with the bridle wires, and protective devices mounted on the outside of said cable head and electrically interposed between said binding posts.

In witness whereof, I hereunto subscribe my name this 22d day of Dec., A. D., 1910.

HOWARD W. DUNBAR.

Witnesses:

IRVING MACDONALD,  
HERBERT L. CLARK.