F. C. WOODS.

COMBINED JUNCTION AND TERMINAL BOX FOR ELECTRIC WIRES.

APPLICATION FILED JUNE 14, 1907.

954,842. Patented Apr. 12, 1910.

Fig. 1.

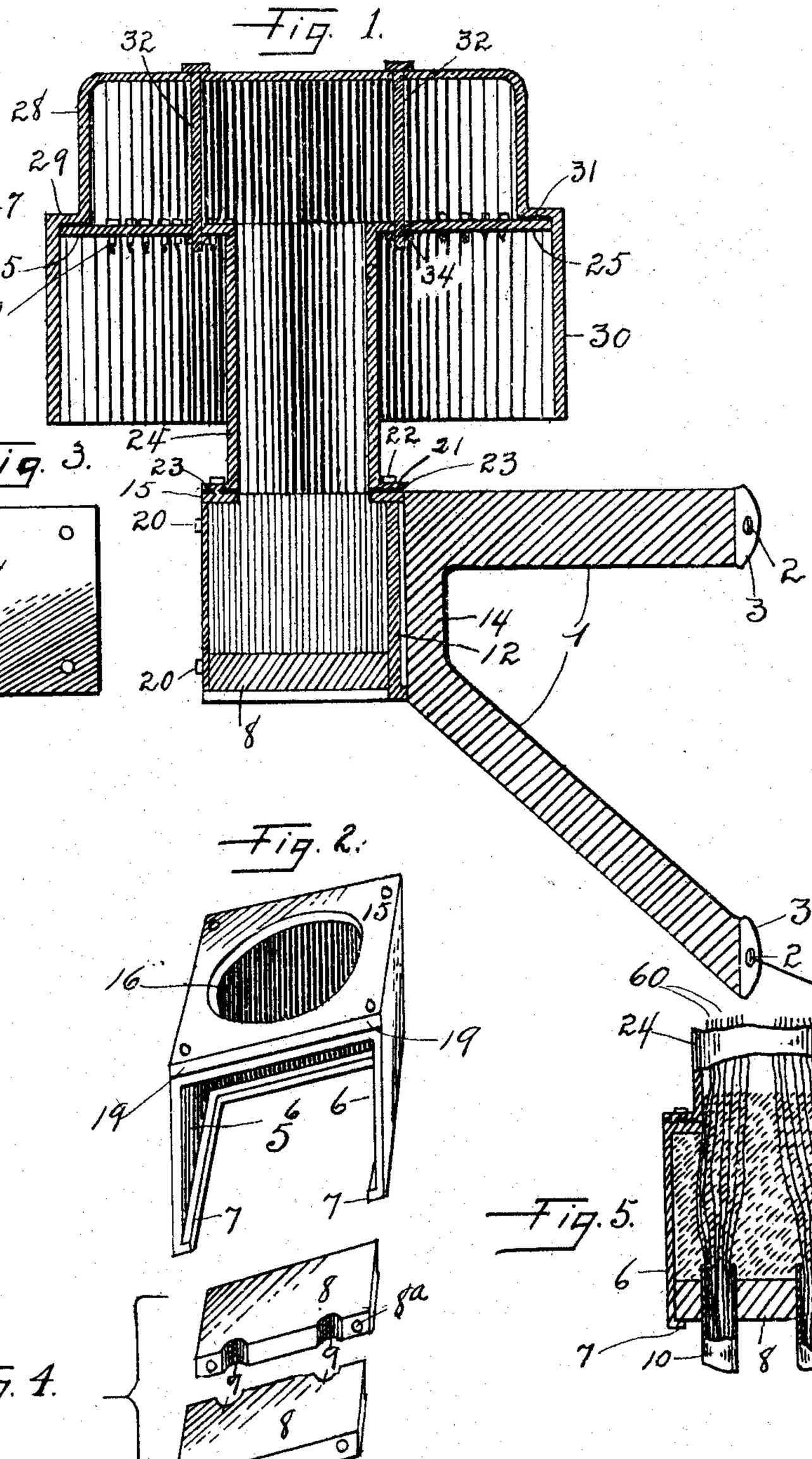

Fig. 3.

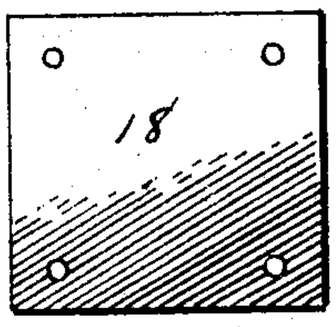

Fig. 2.

Fig. 4.

Fig. 5.

WITNESSES:

Harry N. Brandall

J. W. Boston.

INVENTOR.

F. C. Woods.

BY H. W. Richards,

ATTORNEY.

UNITED STATES PATENT OFFICE.

FREDERICK C. WOODS, OF GALESBURG, ILLINOIS.

COMBINED JUNCTION AND TERMINAL BOX FOR ELECTRIC WIRES.

954,842. Specification of Letters Patent. Patented Apr. 12, 1910.

Application filed June 14, 1907. Serial No. 379,040.

To all whom it may concern:

Be it known that I, FREDERICK C. WOODS, a citizen of the United States, and a resident of Galesburg, in the county of Knox and State of Illinois, have invented a new and useful combined junction and terminal box for electric wires of that class or type which is adapted to be secured to a pole or other means of support and in which are located the terminals of the cables, the wires thereof extending beyond the open ends and a portion of the means for connecting them with the service wires.

The primary object of the invention is to provide a box of that character which will permit the lineman or other operator to have ready access to any or all of the wires of the cables in order that he may, when necessary, make the required connections therewith of the service wires.

One of the essentials in the successful practice of telephony is that the cable ends or terminals and service wires be absolutely shielded or protected from the weather. To the end of effecting this important matter another object is to provide a novel box in which the cable terminals are inclosed and which will protect them from injury. I am aware that this has heretofore been accomplished, generally by "pot-heads", a construction which was attended by much expense and was, for many reasons well known to those skilled in the art, impractical. Especially are such connections impractical when trouble occurs between sections or sectional parts of a cable in multiple work, it being then impossible without great loss of time and labor to locate the seat of trouble without removing a portion of the lead sheath or cover of the cable in order that access may be had to the wires.

A further object is to provide a simple and effective means by which the cables may be secured in or to the box, in the employment of which means the laborious and expensive process of "wiping" a joint is dispensed with.

A still further object is to provide means for readily, quickly and easily securing paper covered wires directly to the terminating service contact member of the cable.

Subsidiary objects will appear as the nature of the invention is better understood by further disclosure.

The novel means employed in carrying out the objects of my invention are hereinafter described and are made the subject matter of claims hereto appended.

In the accompanying drawings all my improvements are embodied in the best way now known to me; obviously, however, some of these constructions may vary in form, disposition and assemblage from what shown, and some may be used without the others.

In said drawings: Figure 1 is a vertical central sectional view, showing a preferred construction and assemblage; Fig. 2, a perspective of the terminal-box, the removable gate and bottom thereof not being here shown; Fig. 3, an elevation of the removable gate for the terminal-box; Fig. 4, a perspective of the sectional bottom of the terminal-box; and Fig. 5, a sectional view, partly in elevation, showing the manner of securing the cables in place and the means for guarding and protecting them against moisture.

Attention is now called to the drawings and to the numerals of reference thereon, the same one indicating the same part in the different figures thereof.

1 represents an ordinary bracket adapted to be secured to a pole or other means of support by bolts or screws passed through the apertures 2 in the ears 3 thereof. The ground connection 4 is preferably made to this bracket. The terminal-box 5, shown best at Fig. 2, is preferably formed of sides 6 each of which is provided with a ledge or flange 7 at its lowermost portion, said flanges being adapted to support a bottom 8 of wood, fiber, metal or other suitable material, made in two parts and apertured at 9 for the reception of cable-terminals or ends 10. The bottom is provided also with transverse through-apertures 8^a by which the sections or divisions thereof are bolted together (Fig. 1) and to the back 12 of the box. The back is preferably integral with the sides 6 and is apertured for the reception of bolts by which it is secured to the plate 14 of the bracket 1 in an ordinary manner. Integral with the sides 6 and back 12 is a top 15 which is provided with a central opening 16 which coincides with the opening in a tubular sleeved connector-support (see Fig. 10) presently described. At its front the terminal-box is provided with a gate or door 18, Fig. 3, which is either "machined" or fitted with a gasket or other packing, not shown, between it and the parts against which it bears. Its upper edge

rests underneath a ledge 19 at the front of the top 15 and it (the gate) is fitted to rest against the edges of the sides 6 and one section of the bottom 8 and to be held securely in place by bolts 20, Fig. 1.

The base 21 of the connector-support is secured to the top 15 of the terminal-box by bolts 22 or otherwise as preferred. Also, a gasket 23 is here employed to form an hermetic seal or union of said parts. Extending upwardly from the base 21 is a sleeve 24 from the top of which projects a horizontal connector-supporting flange or plate 25 provided with a series of threaded apertures 26 for a purpose hereinafter described. The flange, which is here shown as a disk or annular in form, may be of any preferred and suitable configuration and shape, that shown being preferable because of the fact that the hood or cover 27 hereinafter described will fit more readily and perfectly than it will over a flange of another shape. It will be evident that the sleeve and flange may be made separate if preferred, to be united in any suitable manner.

The hood 27 comprises a dome 28 which is provided with an annular projection 29 from which depends an enlarged cylindrical portion 30 which is open at its bottom. The annular projection rests preferably on a gasket or packing ring 31 seated on the flange 25, and the hood and flange are held firmly together in such manner that they are impervious to moisture by bolts 32 passed through perforations in the cap of the hood and through registering perforations in the flange, the threaded end of the bolt being provided with a nut 34 in an ordinary manner and for an evident purpose. This construction provides an hermetic seal for the said parts, whereby the cable-wires and the upper part of the male member of the connector are effectually shielded from the elements.

Connectors of various forms and characters may be employed in connection with the devices herein shown and described.

The cable terminals 10 after being passed through the apertures 9 are securely held therein by tightening the bolts 20 to bring the two sections of the bottom of the terminal-box into close relation to each other. The box is then filled with any suitable sealing compound 59, preferably one which is in a semi-liquid condition when heated and which solidifies on cooling, to effectually and hermetically seal them therein. The sealing compound extends preferably, as shown, up into the sleeve 24 and effects a similar seal between the box and the base 21, in which event the gasket need not be employed.

The nipple or male member of a connector is then threaded through to be held securely in place in the threads of an aperture in the plate or flange 25, the threaded point or end 36 extending therebeneath. The threads of the female member of the connector are then brought into engagement therewith, as shown at Fig. 11. One of the wires 60 of the cable is then passed upwardly through the sleeve and secured to the contact member 40 in any ordinary and suitable manner. Each service wire is secured to the contact member 54 by means of the thumb-nut thereon in an evident manner, the female member 45 of the connector having first been threaded onto the member 36 as shown at Fig. 11.

The dome 32 and gasket 31 provide an hermetic seal for the parts inclosed within the chamber formed by them and by the horizontal flange 25. This latter I have herein termed a "horizontal" flange for the reason that it is more effective in serving the purpose for which it is intended than when it is arranged in any other manner; it will be obvious, however, that it may be perpendicular or even inclined at an angle should it be, for any reason, necessary so to use it. The depending annular member, 30, of the hood prevents driving rain or snow being carried against the female member of the connector.

It will be evident that access may be quickly and readily had to the cable terminals by simply removing the bolts 22 and lifting the upper portions of the device from off the box. The lower portions of the connectors may be at once and without trouble reached by the operator extending his hand under the edge of the member 30, while the male members are easily accessible by removal of the bolts which extend through the hood and flange.

The gate may be quickly removed for access to the interior of the terminal box, for work on the cables, as, for instance, slitting or laying down a portion of the sheathing of the cable, or for any other purpose, and is as readily replaced.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A device of the character described comprising a supporting bracket, a terminal box secured thereto, said box provided with an enlarged central aperture in its upper portion, a sleeved connector secured to and above said box and having communication with said aperture, there being an enlarged annular flange at its upper portion provided with series of apertures, and a dome secured to said flange, surmounting and surrounding it and its sides depending a distance therebelow, its lower portion being open whereby access may be had to said flange.

2. A device of the character described comprising a supporting bracket, a terminal

box secured thereto, a removable gate therefor, a sectional bottom also removable therefrom, means for uniting the sections comprising said bottom, a connector secured to and above said box and having communication therewith, there being an enlarged annular flange at its upper portion provided with a series of apertures and a dome secured to said flange, surmounting and surrounding it and its sides depending a distance therebelow, its lower portion being open whereby access may be had to said flange.

3. A device of the character described comprising a supporting bracket, a terminal box secured thereto, said box provided with an enlarged aperture in its top, a removable bottom for said box comprising a plurality of sections having their confronting faces partly cut away to receive a cable, means for drawing said sections closely together and uniting them, a sleeved conductor secured to and above said box and having communication therewith, there being an enlarged annular flange at its upper portion provided with a series of apertures, and a dome secured to said flange, surmounting and surrounding it and its sides depending a distance therebelow, its lower portion being open whereby access may be had to said flange.

In testimony whereof I have hereunto affixed my signature in presence of two witnesses.

FREDERICK C. WOODS.

Witnesses:

H. F. ARNOLD,

GLENN MCGOWAN.